LOREX®
VIEW YOUR WORLD™

DIGITAL VIDEO SURVEILLANCE RECORDER

Instruction Manual

English Version 2.0

*16 Channel Model Shown

THE ECONOMICAL SOLUTION TO PROTECT YOUR HOME OR BUSINESS

VANTAGE
LH120 ECO+ SERIES

www.lorextechnology.com

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Thank you for purchasing the LH120 Series Digital Video Surveillance Recorder.

This manual refers to the following models:

- LH120 Series

For the latest online manual, downloads and product updates, and to learn about our complete line of accessory products, please visit our website at

www.lorextechnology.com

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RICK OF ELECTRIC SHOCK DO NOT REMOVE COVER. NO USER SERVICABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the products ' enclosure that may be of sufficient magnitude to constitute a risk of electric shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF THE PLUG TO THE WIDE SLOT AND FULLY INSERT.

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Customer Service (for warranty matters): **1-888-425-6739** (1-888-42-LOREX)

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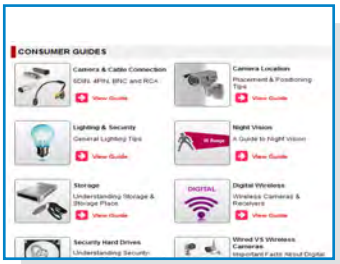
THIS PRODUCT MAY REQUIRE PROFESSIONAL INSTALLATION

LOREX IS COMMITTED TO FULFILLING YOUR SECURITY NEEDS

- We have developed user friendly products and documentation. Please read the Quick Start Guide and User Manual before you install this product.



- Consumer Guides and Video Tutorials are available on our web site at **www.lorextechnology.com/support**

- If you require further installation assistance, please visit **www.lorextechnology.com/installation** or contact a professional installer.

- Please note that once the components of this product have been unsealed, you cannot return this product directly to the store without the original packaging.

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CE PRODUIT POURRAIT EXIGER UNE INSTALLATION PROFESSIONNELLE

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- Les guides du consommateur et les séances de tutorat vidéo sont disponibles sur l'Internet en visitant www.lorextechnology.com/support
- Si vous avez besoin de l'aide pour l'installation, veuillez visiter www.lorextechnology.com/installation ou contactez un spécialiste en installation
- Veuillez constater qu'une fois que les composantes de ce produit ont été retirées de l'emballage, vous ne pourrez plus retourner ce produit directement au magasi

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ESTE PRODUCTO PUEDE EXIGIR UNA INSTALACIÓN PROFESIONAL

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- Puede conseguir las guías del consumidor y los cursos en enseñanza video sobre el Internet visitando www.lorexcctv.com/support
- Si necesita ayuda para la instalación, visite www.lorextechnology.com/installation o contacte un especialista en instalaciones
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Important Safeguards

In addition to the careful attention devoted to quality standards in the manufacture process of your video product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to assure your enjoyment and proper use of the video product and accessory equipment. Please read them carefully before operating and using your video product.

Installation

1. **Read and Follow Instructions** - All the safety and operating instructions should be read before the video product is operated. Follow all operating instructions.

2. **Retain Instructions** - The safety and operating instructions should be retained for future reference.

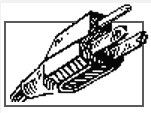
3. **Heed Warnings** - Comply with all warnings on the video product and in the operating instructions.

4. **Polarization** - Do not defeat the safety purpose of the polarized or grounding-type plug.

   A polarized plug has two blades with one wider than the other.

   A grounding type plug has two blades and a third grounding prong.

   The wide blade or the third prong are provided for your safety.

   If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

5. **Power Sources** - This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

6. **Overloading** - Do not overload wall outlets of extension cords as this can result in the risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician.

7. **Power-Cord Protection** - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.

8. **Ventilation** - Slots and openings in the case are provided for ventilation to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video equipment on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the video product manufacturer's instructions have been followed.

9. **Attachments** - Do not use attachments unless recommended by the video product manufacturer as they may cause a hazard.

10. **Camera Extension Cables** – Check the rating of your extension cable(s) to verify compliance with your local authority regulations prior to installation.

11. **Water and Moisture** - Do not use this video product near water. For example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, near a swimming pool and the like.

    Caution: Maintain electrical safety. Power line operated equipment or accessories connected to this unit should bear the UL listing mark of CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.

12. **Accessories** - Do not place this video equipment on an unstable cart, stand, tripod, or table. The video equipment may fall, causing serious damage to the video product. Use this video product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the video product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.

Service

13. **Servicing** - Do not attempt to service this video equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

14. **Conditions Requiring Service** - Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions.

    A. When the power supply cord or plug is damaged.

    B. If liquid has been spilled or objects have fallen into the video product.

    C. If the video product has been exposed to rain or water.

    D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.

    E. If the video product has been dropped or the cabinet has been damaged.

    F. When the video product exhibits a distinct change in performance. This indicates a need for service.

15. **Replacement Parts** - When replacement parts are required, have the service technician verify that the replacements used have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock or other hazards.

16. **Safety Check** - Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.

17. **Wall or Ceiling Mounting** - The cameras provided with this system should be mounted to a wall or ceiling only as instructed in this guide, using the provided mounting brackets.

18. **Heat** - The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Use

19. **Cleaning** - Unplug the video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

20. **Product and Cart Combination** - Video and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the video product and car combination to overturn.

21. **Object and Liquid Entry** - Never push objects for any kind into this video product through openings as they may touch dangerous voltage points or "short-out" parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.

22. **Lightning** - For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power line surges.

General Precautions

1. All warnings and instructions in this manual should be followed.
2. Remove the plug from the outlet before cleaning. Do not use liquid aerosol detergents. Use a water dampened cloth for cleaning.
3. Do not use this unit in humid or wet places.
4. Keep enough space around the unit for ventilation. Slots and openings in the storage cabinet should not be blocked.
5. During lightning storms, or when the unit is not used for a long time, disconnect the power supply, antenna, and cables to protect the unit from electrical surge.

FCC CLASS B NOTICE

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not in-stalled and used in accordance with the instruction, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for assistance

This equipment has been certified and found to comply with the limits regulated by FCC, EMC, and LVD. Therefore, it is designated to provide reasonable protection against interference and will not cause interference with other appliance usage.

However, it is imperative that the user follows this manuals guideline to avoid improper usage which may result in damage to the unit, electrical shock and fire hazard injury

In order to improve the feature functions and quality of this product, the specifications are subject to change without notice from time to time.

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Features

Digital Video Recorder Features

- 4/8/16 channel digital video recorder
- H.264 compression video compression[1]
- Real time recording @ 720 x 240 (4ch) 360 x 240 (8 & 16 ch) resolution
- Pentaplex operation - View, Record, Playback, Backup & Remotely Control the system simultaneously
- Dual streaming - two separate video streams for local recording & internet remote monitoring allows you to conserve bandwidth while recording locally at higher setting
- 24/7 100% Duty cycle hard drive pre-installed

Connectivity Features

- Instant Mobile Viewing on compatible smartphones†
- Exclusive LOREX Easy Connect Internet Set-up Wizard[2]
- PC & Mac compatible (Internet Explorer & Safari browsers)[3]
- Free LOREX DDNS (Dynamic Domain Name Service) for advanced remote connectivity at all times
- Instant email alerts

1. Recording time may vary based on recording resolution & quality, lighting conditions and movement in the scene.

2. Requires a high speed internet connection and a router (not included).

† Instant Smartphone Compatibility on iPhone™, BlackBerry (supported model numbers: 9800, 9700, 9000), Android (version 1.5 & above), Windows Mobile (6.0,6.5), Symbian 3rd & 5th generation phones. Selectable one channel live viewing. Mobile phone data plan is required (not included). Router port forwarding required. For the latest smartphone compatibility list check www.lorextechnology.com as new smart phone models become available in the market.

3. PC (Microsoft Windows™ 7/Vista/XP) compatible using Internet Explorer browser. Mac OS 10.6 or above using Safari browser.

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Getting Started

The system comes with the following components:

DVR (DIGITAL VIDEO RECORDER)

12V DC POWER SUPPLY

REMOTE CONTROL
(may not be exactly as shown)

USB MOUSE

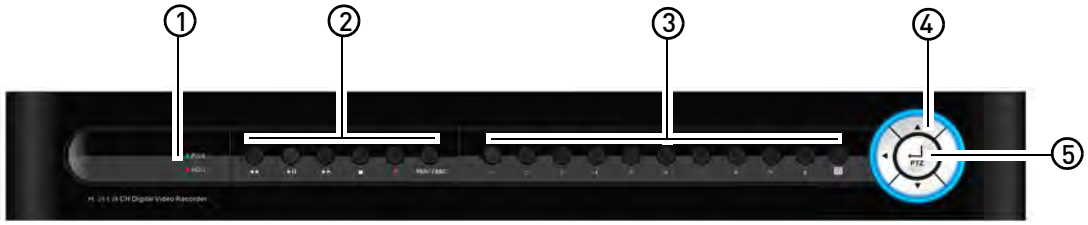
ETHERNET CABLE

INSTRUCTION MANUAL
QUICKSTART GUIDE
DOCUMENTATION CD

HARD DRIVE SIZE, NUMBER OF CHANNELS, AND CAMERA CONFIGURATION MAY VARY BY MODEL. PLEASE REFER TO YOUR PACKAGE FOR SPECIFIC DETAILS.

CHECK YOUR PACKAGE TO CONFIRM THAT YOU HAVE RECEIVED THE COMPLETE SYSTEM, INCLUDING ALL COMPONENTS SHOWN ABOVE.

Front Panel



1 **IR Sensor**: IR receiver for the remote control.

LED Indicators:
- **PWR** : Power LED
- **HDD** : Hard disk activity LED

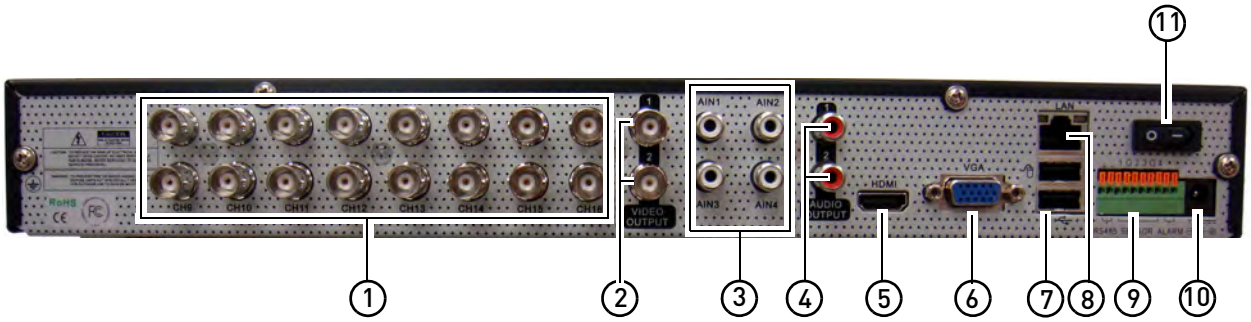
2 Menu & Playback Controls:
- ⏪ : In Playback mode, press for reverse playback. Press repeatedly to speed up video.
- ⏵⏸ : In Playback mode, press to Play video. Press again to pause video playback.
- ⏩ : In Playback mode, press to fast forward video. Press repeatedly to speed up video.
- ■ : In Playback mode, press to stop video playback.
  - In main viewing mode, press to stop DVR recording.
- ● :Press to start/ resume recording. When the channel displays a red box with the letter "C", the channel is recording.
- **Menu / Esc**: Opens the system menu / or press to exit a menu selection

3 Channel Controls:
- **Ch1 ~ Ch9:** Press to view channel in full screen mode.
- To access channels 10 and greater: Press **0** for channel 10 or 1+0 for channel 10, 1+1 for channel 11, 1+2 for channel 12 etc.
- Press to view video in channels in Quad view (channels 1-4 , 5-8, 9-16), or split screen mode (channels 1-16), To switch viewing modes, press the button repeatedly.

4 Navigation Buttons:
- ▲: Press to move cursor up
- ▼: Press to move cursor down
- ◀: Press to move cursor left
- ▶:Press to move cursor right

5 **PTZ/** ↵ :
- Within system menus: Press to confirm a selection.
- In the main viewing mode, press to open the System Information window.
- In the main viewing mode, press and hold for 6 seconds to open the PTZ menu.

Rear Panel



1 **BNC Video IN**: Connect up to 16 cameras.

2 **Video Output**: Outputs the DVR interface to a BNC connection.

3 **Audio In**: Connect up to 4 RCA audio-enabled cameras (not included).

4 **Audio Out**: Connect up to 2 output devices (i.e speakers, not included).

5 **HDMI Out:** Connect a HDMI monitor to view the system interface. Note that the HDMI resolution is upscaled.

6 **VGA Output**: Connect a VGA monitor to view the system interface.

7 **USB Mouse port (top)**: Connect a USB mouse (included) for local system navigation.

- **USB Port (bottom)**: Connect a USB flash drive to upgrade the system firmware or as a media device for video backup.

8 **LAN**: Connect a CAT 5 RJ45 Ethernet cable for local and remote connectivity.

9 **PTZ / Alarm Block**: Connect a PTZ camera and Alarm Devices (not included)

10 **DC12V**: Connect the included AC power adapter to turn on the DVR.

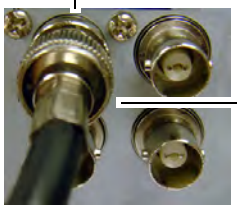
11 **On / Off Switch:** Turns the DVR on or off.

Basic Setup

Step 1: Connect the BNC cameras

• Connect the BNC cameras to the BNC ports on the rear panel of the system.

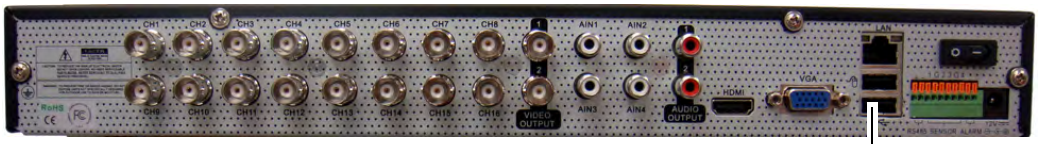
16 channel model shown



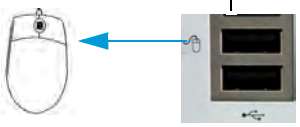
Push and twist the BNC connector clockwise to secure it to the BNC port.

Step 2: Connect the mouse

• Connect a USB mouse to the USB port on the rear panel of the system.

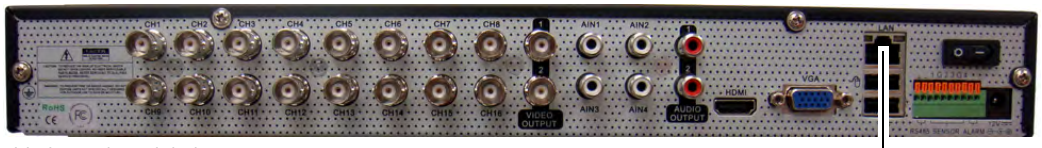


16 channel model shown



Step 3: Connect the Ethernet cable

• Connect the ethernet cable to the ethernet port on the rear panel of the system. Connect the other end of the ethernet cable to a router on your network.



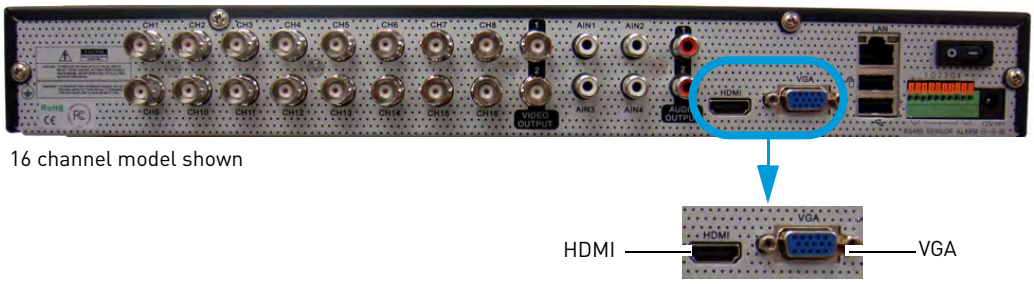
16 channel model shown

Connect ethernet cable

Step 4: Connect the display

- Connect a HDMI cable (not included) to the HDMI port (16 channel only) **OR**;
- Connect the VGA cable (not included) from the monitor to the VGA port.

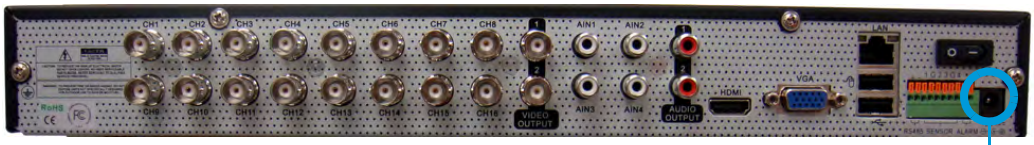
NOTE: If you have a monitor with DVI & VGA, you must use the VGA port. You cannot use a DVI to VGA adapter.



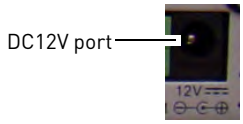
16 channel model shown

Step 5: Connect the power adapter

- Connect the DC 12V connector to the system. Connect the end of the power adapter to a wall socket or a surge protector.



16 channel model shown



Step 6: Verify camera image

- Power on the cameras, and then verify the camera video quality before mounting the cameras to a permanent location.
- Mount the cameras under a sheltered location. Always verify the outdoor rating of your camera before installing it in a permanent location.

Step 7: Set the time

- Set the system time for accurate video time stamps. Videos with inaccurate times may not be valid as surveillance evidence.
- For details on setting the system time, see "Setting the Date and Time" on page 16.

By default, the system user name is ADMIN and the password is 000000. However, these are disabled. It is recommended that you customize your own password. For details, see "Managing Passwords" on page 25.

Default system password & port numbers

- The system requires a user name and password to log in to the system **remotely**.
- The system port numbers must be port forwarded to your router to log in to your system remotely using a web browser or mobile device.

Local DVR user name and password

- Username: **ADMIN** / Password: **000000**

Default ports for remote access

- Port **80** (HTTP port)
- Port **9000** (Client port)
- Port **1025** (Mobile port)

Remote connectivity (LAN & Internet) to the DVR

- User Name: **admin**
- Password: none (left blank)

Mobile connectivity (i.e iPhone) to the DVR

- User Name: **admin**
- Password: **0000**

Quick access to system information

- To quickly open a window that displays vital system information, press the **PTZ** button on the front panel of the system.

Connecting Cameras

Before you mount the cameras, test to ensure the cameras have no problems. Plan where you will route the wiring for the camera, and where you will aim the camera.

Installation Tips

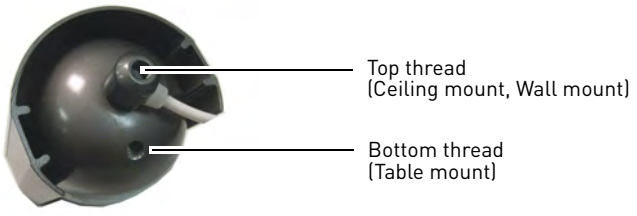
- Mount the camera where the lenses are away from direct and intense sunlight.
- Plan your cable wiring so that it does not interfere with power lines or telephone lines.
- Ensure that the camera wiring is not exposed, or easily cut.
- Adjust the camera angle so that it covers an area with high traffic.
- In "high-risk" locations, have multiple cameras point in the same area. This provides camera redundancy if a camera malfunctions, or if a vandal attempts to damage the camera.
- Mount the camera in an area that is visible, but out of reach.

Camera Stand Installation

1 Mount the camera stand to the desired mounting surface. Choose a firm mounting surface.

NOTE: If you wish to mount the camera stand to drywall, it is recommended to use drywall plugs (not included).

2 Attach the camera to the stand.



Camera model may not be exactly as shown.

NOTE: There are two connection points for certain cameras. Secure the stand to the top thread for wall-mounts or ceiling mounts. Secure the stand to the bottom thread for table-mounts or wall mounts.

Table Mount

Wall Mount

Ceiling Mount

Camera model not be exactly as shown.

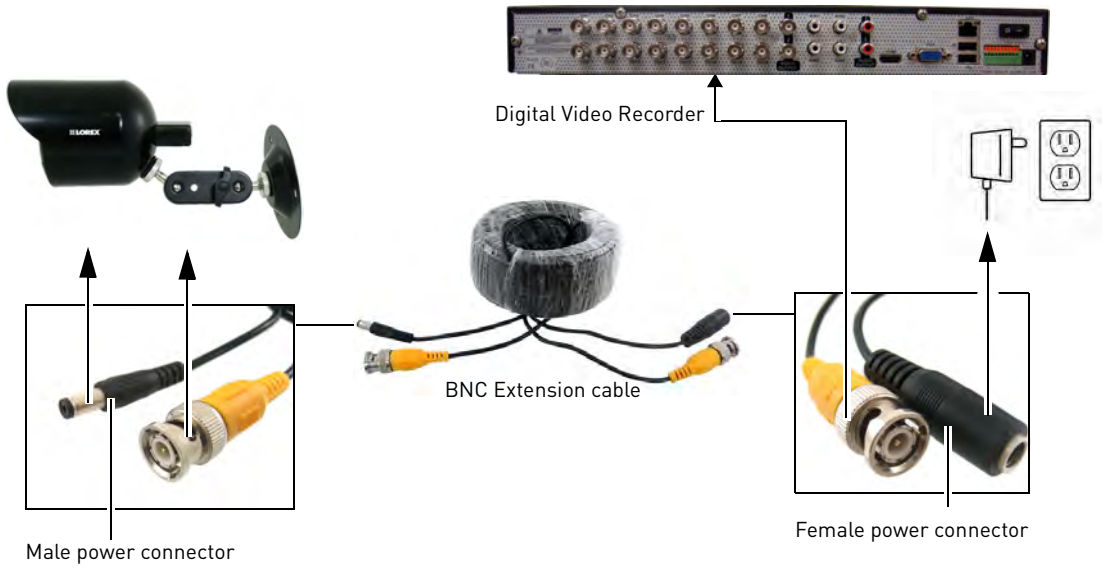
Connecting BNC Cameras

To install BNC cameras to your system:

1 Connect the male power connector on the BNC extension cable to the female power connector on the camera.
- Connect the BNC connector to the camera.

2 Connect the female power connector on the BNC extension cable to the power adapter.
- Connect the BNC connector to the BNC port on the system.

3 Plug the power adapter to a power outlet.



Connecting and Removing BNC cables

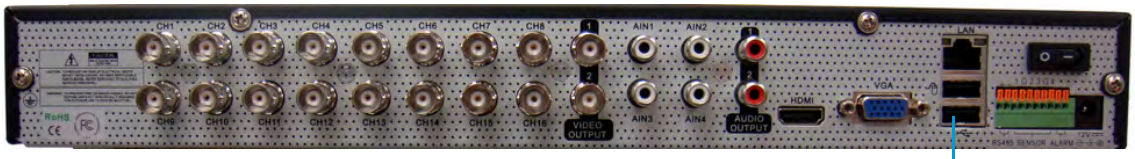
BNC (Bayonet Nut Connector) is a special connector that locks on to the system port, and cannot be accidently removed.

To connect or remove a BNC connector:

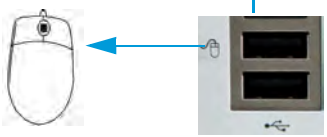
- Push the BNC connector firmly into the BNC port and simultaneously twist the connector clockwise to tighten.
- To remove a BNC connector from a BNC port, push and simultaneously twist the connector counter-clockwise to loosen the BNC connector.

Mouse Control

The system is designed for mouse navigation. To use the mouse, connect the mouse to the rear USB panel on the DVR.



16 channel model shown

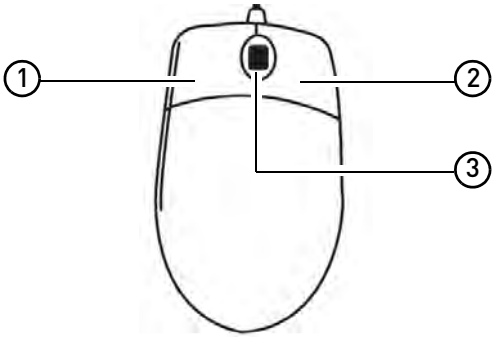


Connect the mouse to the TOP usb port.

1 Use the mouse buttons to perform the following:
- **Left-Button**: Click to select a menu option; during live viewing in split-screen, double-click on a channel to view the selected channel in full-screen.; double-click the channel again to return to split-screen view

2 **Right-Button**:
- Click to open the Sub-Menu (see "Using the Menu bar" on page 14.).
- In menus, use the right-button to exit menus.

3 **Scroll-Wheel**: No function.



Remote Control (16 Channel)

The remote control is the secondary input device for navigating the system's interface.

To use the remote control:

1 **REC:** Starts system recording.

- **SEARCH**: Opens the Search menu.
- **Number Keys (1 -0)**: Opens the desired channel in full screen mode. Press 1+0 for channel 10, 1+1 for channel 11 etc.
- **Display Mode**: Press repeatedly to change viewing modes (i.e. press once to switch to quad view (ch 1-4), press twice to view channel 5-8 etc.)
- **2x2 / 3x3 / 4x4 :**Opens the window in grid mode.
- **AUTO**: Starts sequence view.

2 **Navigation Cursors**: Use the navigation cursors to navigate the menu.

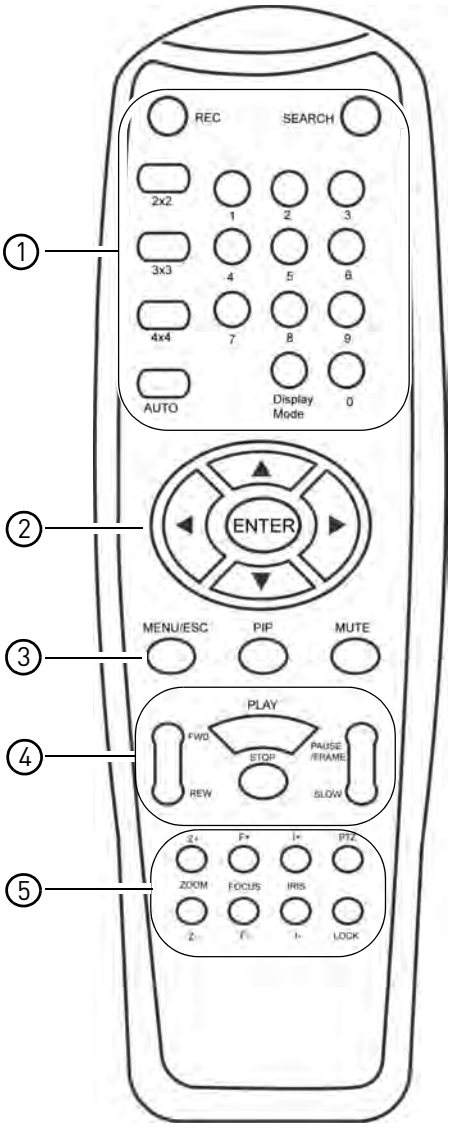
- **ENTER**: Confirms the selection in the menu.
- Press to access System Information during live view.

3 **MENU/ESC**: Opens the Sub menu. Within menus, the MENU button is used to exit the menu.

- **MUTE**: Mutes audio channel during live view and playback.

4 **Playback Controls**:

- **FWD**: During playback, press repeatedly to increase playback speed
- **REW**: During playback, press repeatedly to increase reverse playback speed
- **PLAY**:
  - In live view, press to open the Record Search Menu
  - During playback, press to play video.
- **STOP**: Press to stop recording.
- **PAUSE/FRAME**:
  - Press to pause video during playback
  - Press repeatedly to play frame by frame during playback



5 PTZ Controls:

- **Z+/Z-** : Adjust camera Zoom.
- **F+/F-** : Adjust camera Focus.
- **I+/I-**: Adjust camera Iris.
- **PTZ**: Opens the PTZ menu.
- **LOCK**: Locks the system screen.

Starting the System

To power the system ON:

- Press **I** on the power switch on the rear panel of the system.

At startup, the system performs a basic system check and runs an initial loading sequence. After a few moments, the system loads a live display view.

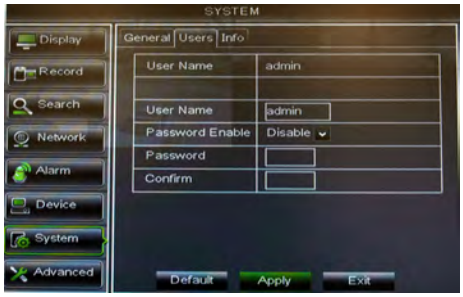
Initial startup screen

To power the system OFF:

- 16 Channel: Press **O** on the power switch on the rear panel of the system. Unplug the power cord.

Password

ATTENTION: By default, passwords are **disabled** on the system. You do not need to enter a password when accessing any system menus. For security purposes, it is highly recommended to enable passwords on the system using the Password Menu. For details, see "Managing Passwords" on page 25.



Password menu

Restoring the system's resolution if you see a blank screen

If you see a blank screen on your monitor after turning on your system, the DVR's output resolution may be higher than what your monitor supports. Follow the steps below to restore the DVR's default resolution to 1024 x 768.

Prerequisite:

- Ensure video and power connections to the monitor and DVR are properly connected.

To restore the DVR's default resolution:

1 While the system is on, press and hold the Stop button (■) on the system's front panel until the system restarts (approximately 12 seconds). The system restarts with a default resolution of 1024 x 768.

NOTE: If your system resolution is already in 1024 x 768, pressing and holding the Stop button will not restart the system.

16 channel model shown

Stop button (■)

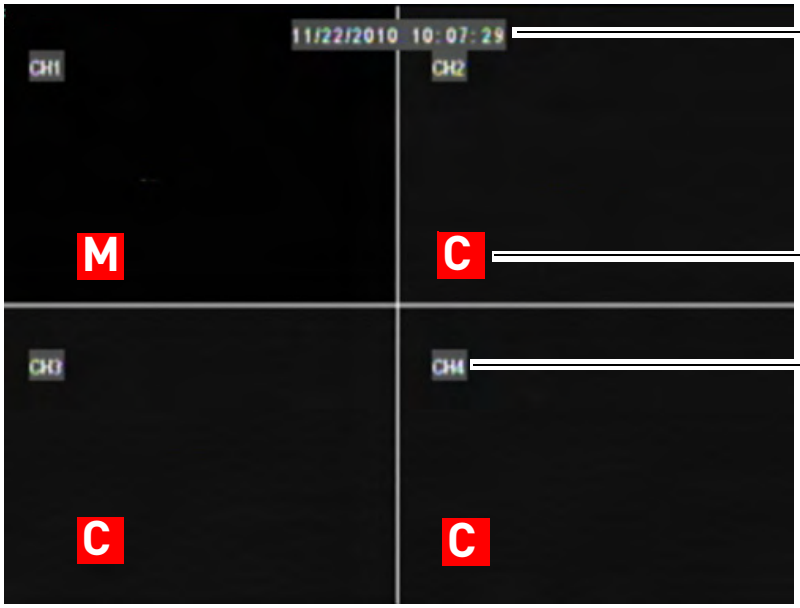
Adjusting the DVR's Output Resolution

For details on configuring the DVR's output resolution, see "Changing the output resolution" on page 30.

NOTE: When adjusting the DVR's output resolution, ensure your monitor supports the selected resolution. If you select an output resolution greater than what your monitor supports, you may have to restart the DVR using the steps above.

Using the On-Screen Display

Use the system's graphical on-screen display to navigate menus and configure options and settings.



1 **Date & Time**: Displays the date and time on the system

2 **Record Status**: Displays the current recording status of the system: **C**=continuous (normal recording); **M**=motion recording; **A**=alarm recording.

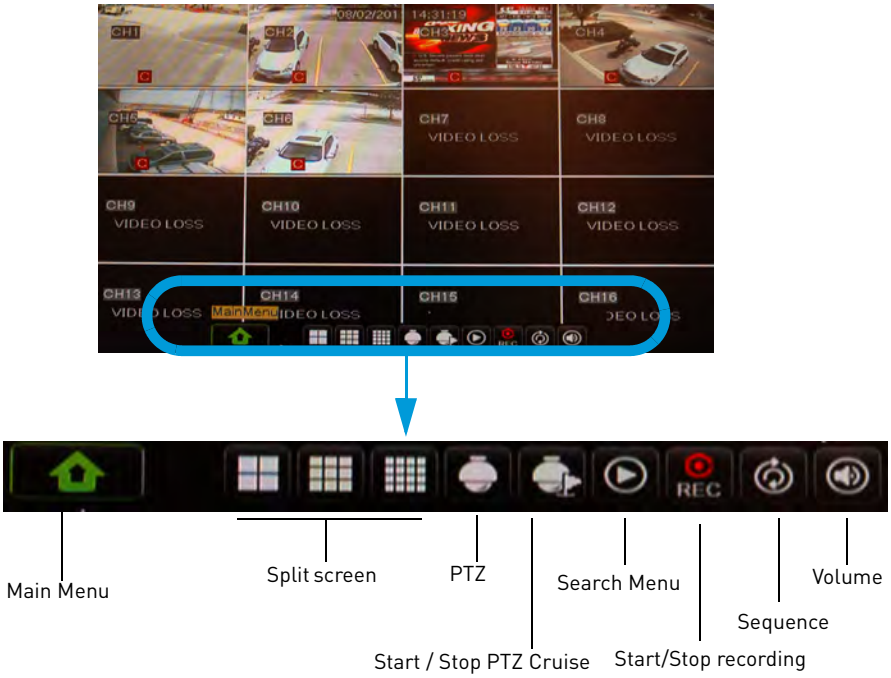
3 **Channel number / Channel title**: Displays channel number or channel title. To rename the channel number to a title, see "Changing the channel name" on page 29.

Using the Menu bar

The menu bar allows you to access the main system menu, and control basic functions of the DVR.

To access the menu bar:

1 Move the mouse cursor to the bottom portion of the screen. The menu bar appears.



About the menu bar icons

- **Main Menu**: Opens the DVR's system menu.
- **Split Screen buttons**: View the DVR in 4 screen, 9 screen, or 16 screen split mode.
- **PTZ**: Opens the PTZ controls.
- **Start/Stop PTZ Cruise**: Start or stop the PTZ cruise function.
- **Search Menu**: Opens the DVR search menu. This allows you to search for saved video on the system.
- **Start/Stop Recording**: Start or stop system recording on all channels.
- **Sequence**: Start/Stop system sequence.
- **Volume**: Adjust the channel volume (audio-capable cameras required, not included).

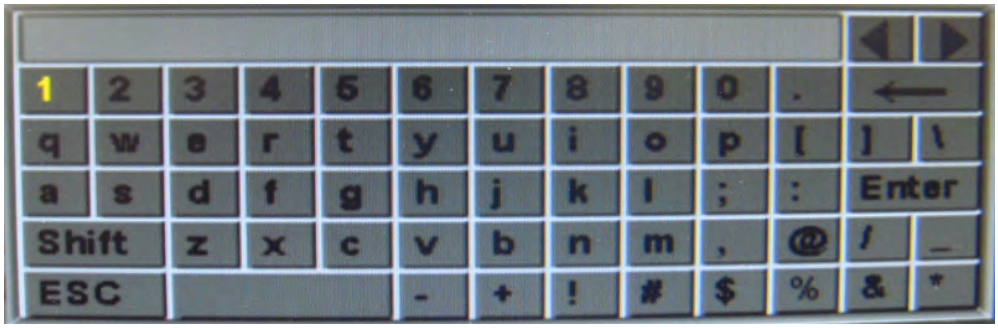
Using the Virtual Keyboard

You can input certain values using the on-screen virtual keyboard.

You will need to use the Virtual Keyboard when entering your User ID and Password.

To use the Virtual Keyboard:

1 Click on an option or field, such as the User ID and Password fields (if password is enabled). The Virtual Keyboard opens.



Virtual Keyboard

- Click **Shift** to switch between upper and lowercase letters.
- Click ◀ ▶ to move the cursor between letters.
- Click ⟵ to Backspace/Delete.
- Click **Enter** to enter your selection.
- Click **ESC** to close the virtual keyboard.

Setting the Date and Time

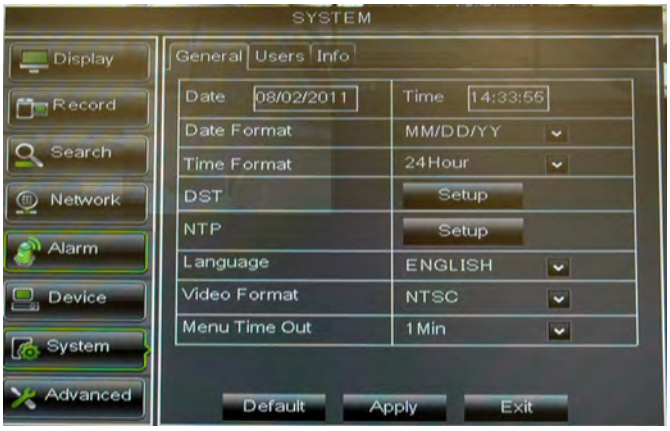
It is highly recommended to set the date and time when first setting up your system.

Inaccurate time stamps may render your footage unusable for court evidence.

To set the date and time:

1 Click the Main Menu button ( )in the menu bar.

2 Click **System.**



3 Configure the following:

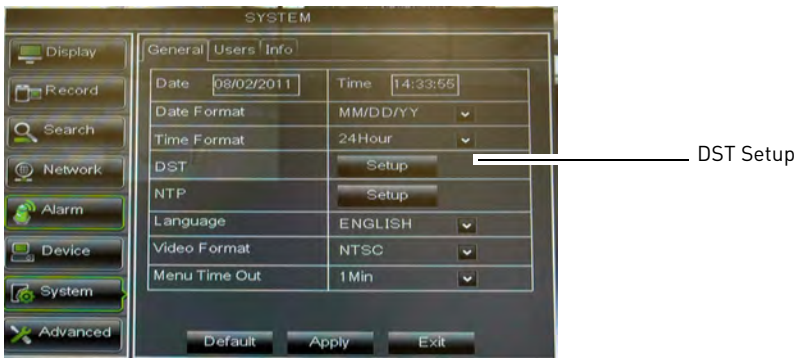
- **Date**: Enter the month, date and year.
- **Time**: Enter the time.
- **Date Format**: Select **MM/DD/YY** or **, DD/MM/YY**, or **YY/MM/DD**.
- **Time Format**: Use the drop-down menu and select **12HOURS** or **24HOURS**.
- **DST**: Click the **DST Setup** button to configure daylight savings time (optional).
- **NTP SERVER**: Select the time server that will keep track of DST settings. A constant internet connection is required for the NTP server feature to function.

4 Click **APPLY** to save your settings.

Configuring Daylight Savings Time (DST)

If your region observes daylight savings time, follow the instructions below.

1 Click the **DST Setup** button.



2 Configure the following:

- **Daylight Saving Time**: Select Enable.
- **Time Offset**: Select the hours the system should move forward or backward when DST occurs.
- **Daylight Saving Time Mode**: Select Week or Date. This allows you to select whether DST should begin at the beginning of the week, or during a specific date.
- **Start Time, End Time**: Enter when daylight saving starts and ends.

3 Click **Apply** to save your settings.

Using a NTP server to set your system time

A NTP server (Network Time Protocol) syncs your system time with an online time server.

To enable NTP:

1 Click the Main Menu button ( )in the menu bar.

2 Click **Alarm**. Beside NTP, click **SETUP**.

3 Configure the following:

- **Enable**: Select **Enable**.
- **Server Address**: Select the desired NTP server. It is recommended to use **ntp.lorexddns.net** as the NTP server.
- **Time Zone**: Select your region's time zone.

4 Click **Apply** to save your settings.

Recording

By default, the system is set to immediately record video from connected cameras in Continuous Recording Mode.

- C **Recording—Continuous**: Normal, continuous recording

You can set the system to stop recording once the hard drive is full, or to continually record by overwriting previously recorded data. For more details, see "Configuring Hard Drive settings" on page 43.

Event Recording

The system also includes motion recording:

- M **Recording—Motion**: The system records when motion is detected by the camera

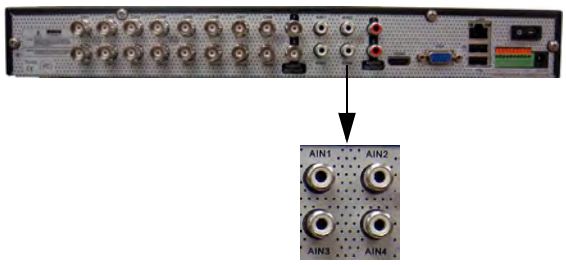
Recording Audio

The system can also record audio for up to 4 channels.

ATTENTION: Audio capable cameras (not included) or self-powered microphones are required in order to record audio on the system.

To enable audio recording:

1. Connect the BNC video cable from the camera to one of the BNC ports on the rear panel of the system. For example, connect the camera to BNC port 1.
2. Connect the RCA audio cable from the camera to the corresponding audio channel. Following the example in step 1, you would connect the cable to audio port 1 (AIN1).



Connect an RCA audio cable into the "AIN" (Audio In) ports.

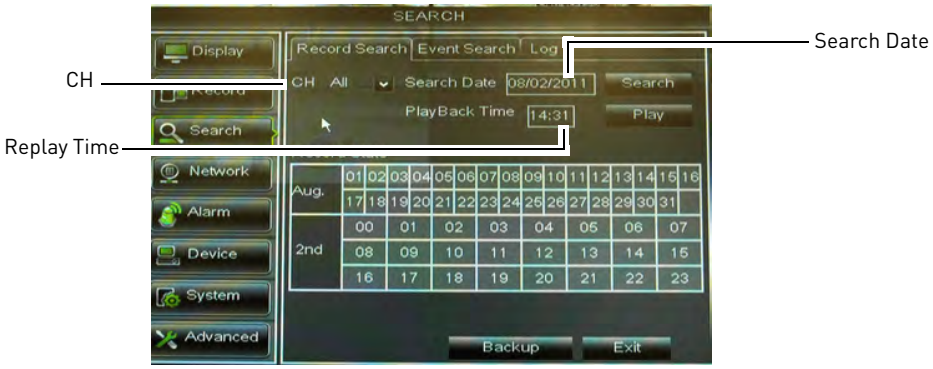
Playback

View recorded video on the system through the Search Menu.

To begin playback:

1 Click the Search Menu button ( ) in the menu bar.

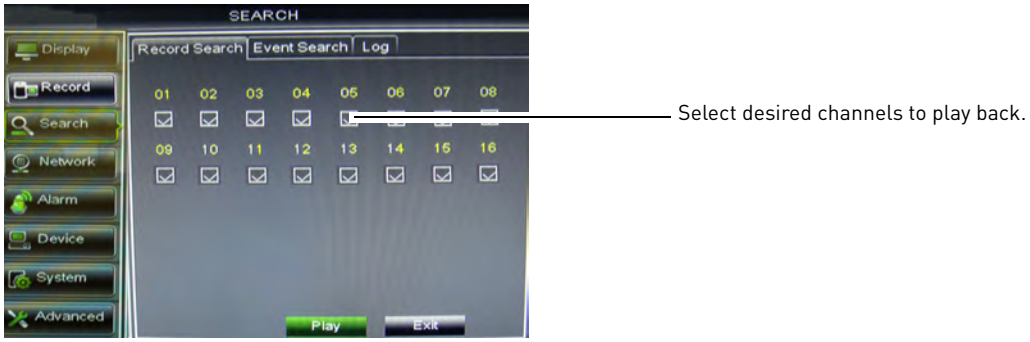
2 Configure the following:
- **CH**: Select the channel you wish to search under. Select **All** if you wish to search under all 16 channels.
- **Search Date**: Enter the desired month, date, and year you wish to search for video.
- **Playback Time**: Enter the desired time you wish to search for video.



3 Click the **Search** button. The calendar populates with search results.

4 Click on the desired date in the calendar, then click **Play**.

5 Select the desired channel you wish to play back.

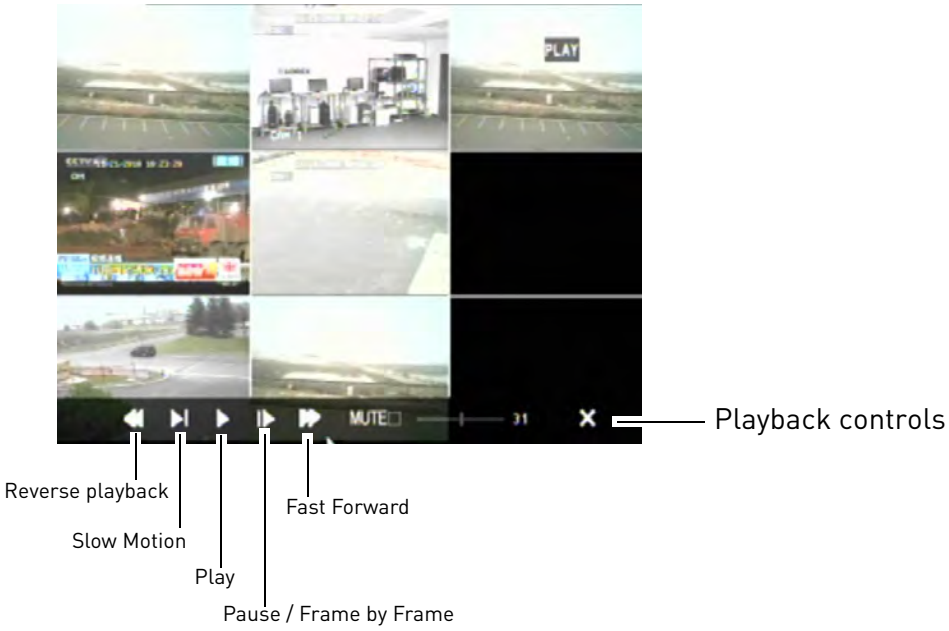


6 Click **Play** to begin playback.

On-Screen Playback Controls

To use the on-screen playback controls:

1 Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control or front panel of the system.



2 Click the VCR-like controls to play, pause, fast forward, rewind, and slow down playback.

3 Drag the slider to adjust the volume (audio capable camera required, not included). Select the box to mute the audio.

4 Click **X** to quit playback and return to the Search menu.

Backing Up Video

You can back up video to a USB key connected to the rear panel of the system.

To back up video:

1 Click the Search Menu button ( ) in the menu bar.

2 Click the **Event Search** tab.

3 Configure the following:

- **Search Date**: Enter the desired month, date, and year
- **Search Time**: Enter the time range you wish to search under.
- **CH**: Select the channel you wish to search under. To search under all 16 channels, select **All**.
- **Type**: Select the type of recording you wish to search under. Choose from **All, Normal**, or **Alarm**.

4 Click **Search**. A list of videos populate in the window.

5 Click ◀ ▶ to scroll through the list of videos. The videos are named by time. Videos are "packed" into 15 minute - 60 minute increments.

6 Click the checkbox beside the video you wish to back up.

7 Insert a blank USB memory drive into the USB port in the rear panel of the system.

8 Click **Backup**. Wait for the backup to finish before removing the USB memory drive.

NOTE: To change the duration of how often a file is "packaged", see "Network" on page 37.

Viewing Backed Up Video

To view the downloaded video, you must install the Lorex Player 11 software.

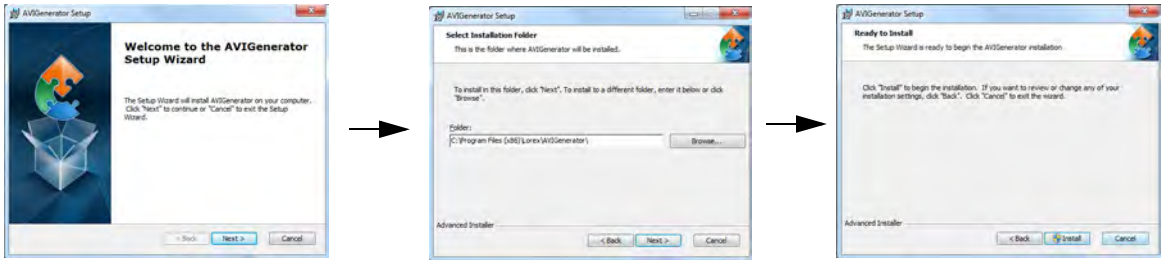
For details on viewing backed up video, see “Lorex Player 11” on page 82.

Converting Backed Up Video to AVI Files

The DVR saves its backup files as proprietary video files. To share these files, you must convert them into .AVI files. Note that the AVI generator can also back up audio in audio-enabled cameras.

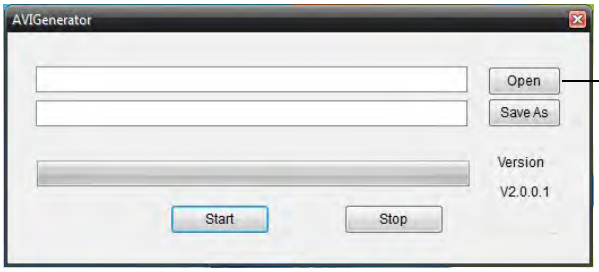
To install the AVI converter:

1. Insert the software disc in your computer’s CD/DVD rom drive.
2. Locate the **AVI Generator** software from the CD installation wizard.
3. Follow the on-screen instructions to install AVI Generator.

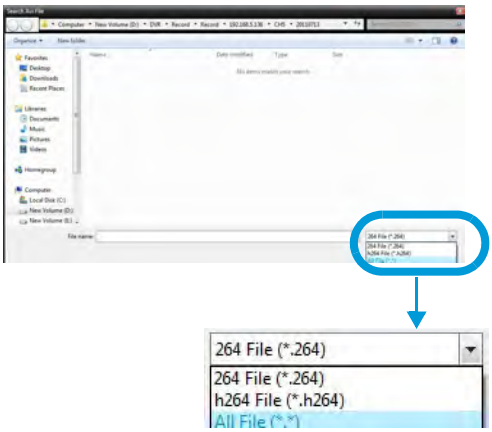


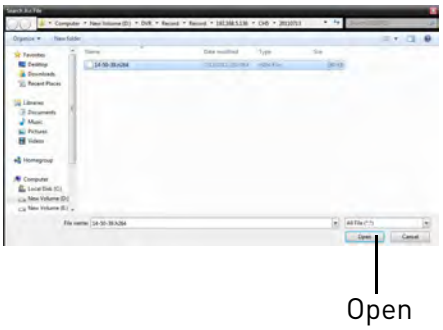
To start the AVI Generator:

1. Double-click the **AVI Generator** shortcut on the desktop ( ).
2. Click **Open** and then locate the backed up video file on your hard drive.



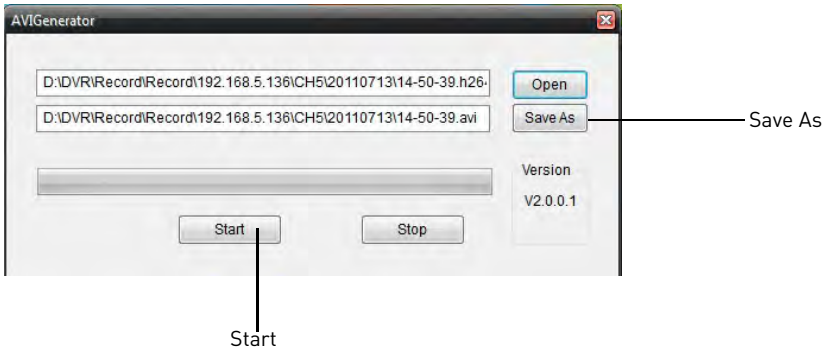
3 Select the desired file format (.264 , h.264, All File) that you wish to search for. Click **Open**.





4 Click **Start** to convert and save the file in the default save directory.

- Or click **Save As** to select a desired save directory, then click **Start** to convert the file.



5 Locate the file in the directory you selected in step 4.

Managing Passwords

ATTENTION: By default, passwords are disabled on the system. You will not need a password to log in or access menus. You will not need a password to access your system using the browser-based remote software.

When you first startup your system, you are technically logged in as the ADMIN. The system employs two user authorities connected to the system---ADMIN and USER.

- **ADMIN**—administrator: Has full control of the system, and can change both administrator and user passwords and enable/disable password checking
- **USER**—normal user: only has access to live viewing, search, playback, and other limited authorities

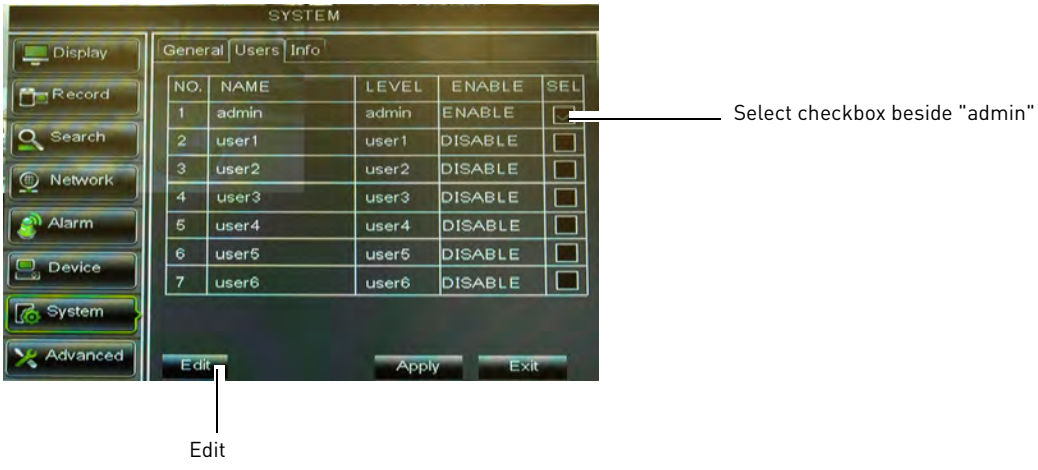
For security reasons, it is highly recommended to enable passwords on your system. If you enable passwords, you must select a 6-digit USER password *and* a 6-digit ADMIN password. **By default, the system password is disabled.**

Changing The System Password

You can change the system password of the ADMIN and the USER from the User menu.

To change the admin password:

1. Click the Main Menu button ( )in the menu bar.
2. Click **System**→ **Users** tab.
3. Select the checkbox beside "admin" to change the admin password, then click the **Edit** button.



4 Configure the following:

- **User Name:** Enter the desired admin name.
- **Password Enable**: Select **Enable** or **Disable** to enable or disable the system from prompting you for a user or admin password during log in.
- **Password**: Enter your desired password.
- **Confirm**: Re-enter the password.

5 Click **Apply** to save your settings.

Adding users

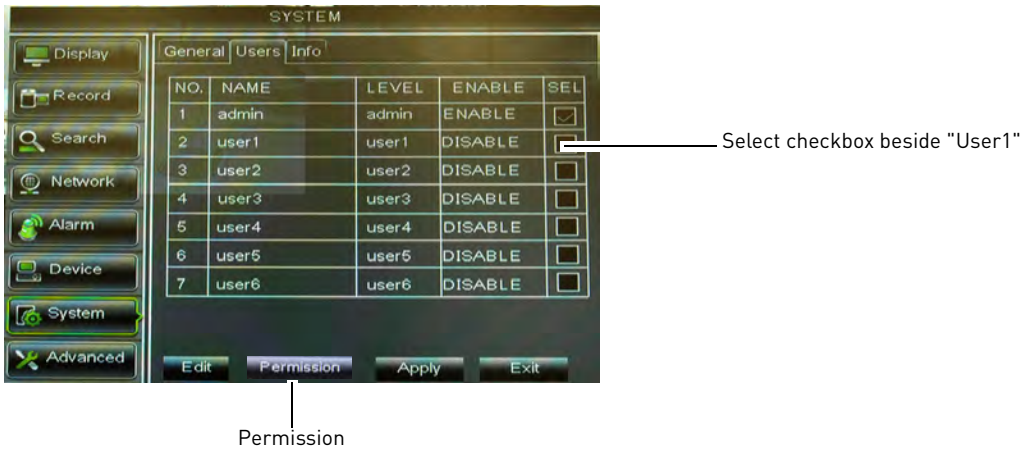
You can allow multiple users to log in to the system. When adding different users, you can assign what menus they do and do not have access to. For example, you may want your friend to monitor your system while you are away, but you do not want to give full access to your system.

To add a new user:

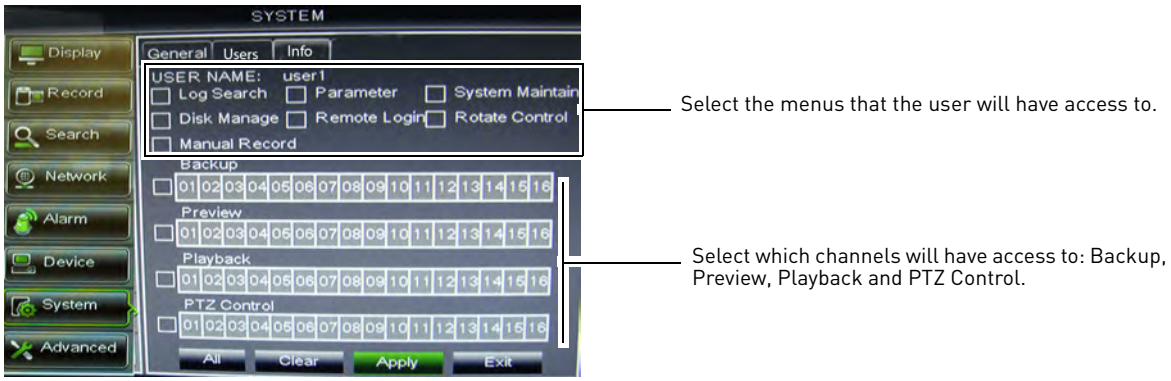
1 Click the Main Menu button ( )in the menu bar.

2 Click **System**→ **Users** tab.

3 Select the checkbox beside "User1" (or any other user), then click the **Permission** button.



4 Select the menus the users have access to:



5 Click **Apply** to save your settings.

6 Configure the following:

- **User Name:** Enter the desired user name.
- **Password Enable**: Select **Enable** or **Disable** to enable or disable the system from prompting you for a user or admin password during log in.
- **Password**: Enter your desired password.
- **Confirm**: Re-enter the password.

7 Click **Apply** to save your settings.

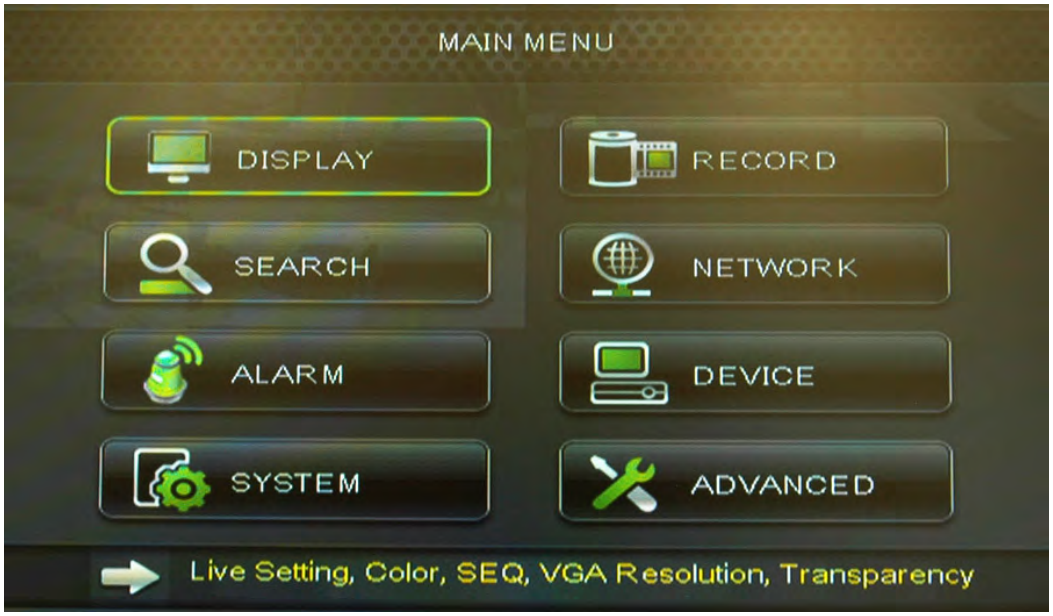
Now, you can log in to the system locally, or remotely using the user name or password you created. When logging into the system with a user account, the user will only have access to the menus you assigned.

Using the Main Menu

To open the Main Menu:

- Click the Main Menu button ( )in the menu bar.

NOTE: If passwords are enabled on the system, you need to enter the 6-digit numerical password to open the Main Menu.



1. **Display**: Configure system display options (i.e Color saturation, Camera title, Video Output)
2. **Search**: Search for recorded video and log files on the system.
3. **Alarm**: Configure system alarm settings.
4. **System**: Configure system time and user accounts.
5. **Record**: Configure recording modes, and system recording schedules.
6. **Network**: Configure system network settings (i.e. DDNS, e-mail alert settings).
7. **Device**: Configure PTZ settings, HD recording mode, HD format option
8. **Advanced**: Configure system restart schedule, perform firmware upgrades.

Display

The display menu allows you to configure DVR image settings, and general settings on how your DVR displays names and titles on screen.

Tip: When you want to apply the setting to multiple channels, click the "Copy To" drop-down menu, and select **All**. Click the **Copy** button to copy the setting across all channels.

Changing the channel name

1 In the Channel drop-down menu, select the channel that you wish to re-name.

Channel drop-down menu

2 Double-click the "Name" field. Use the mouse to enter in the new channel name.

3 Click **Apply** to save your settings.

Changing the position of the channel name

1 In the Position drop-down menu, select one of the following:

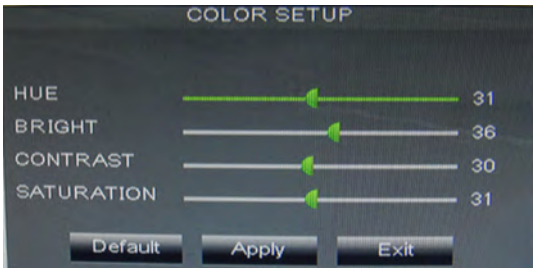
- U-L : Upper left hand corner
- D-L: Lower left hand corner
- U-R: Upper right hand corner
- D-R: Lower right hand corner

2 Click **Apply** to save your settings.

Adjusting the image color

1 In the Channel drop-down menu, select the channel that you wish to configure.

2 Click the **Setup** button. The Color Setup window opens.



3 Drag the slider to adjust the color values for the following: Hue, Brightness, Contrast, Saturation.

4 Click **Apply** to save your settings.

Enabling Covert Recording

Covert Recording blanks out the screen so that it seems as if the system is not recording.

To enable covert recording:

1 In the Channel drop-down menu, select the channel you wish to apply covert recording to.

2 In the Covert drop-down menu, select **Enable**.

3 Click **Apply** to save your settings.

Configuring the Time and Recording Time display

To add/remove the time stamp in the system display:

1 In the Live Time and Record Time drop-down menu, select enable or disable.

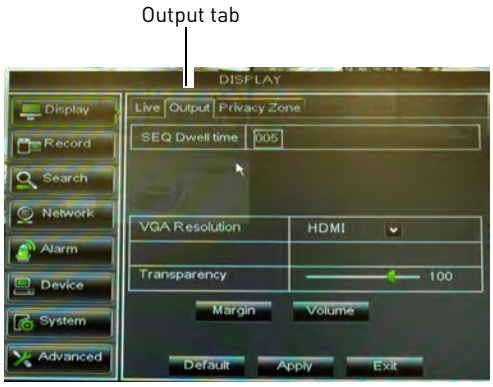
2 Click **Apply** to save your settings.

Configuring Sequence Time

Sequence time refers to the time a channel remains on screen before changing to a different channel. For example, when sequence view is enabled, channel 1 displays on screen for several seconds, then channel 2 etc.

To configure the sequence time:

1 Click the **Output** tab.



2 Beside "SEQ Dwell time", enter the dwell time (the time the channel remains on-screen before changing to another channel).

3 Click **Apply** to save your settings.

Changing the output resolution

To change the VGA output resolution:

1 Click the drop-down menu beside "VGA Resolution". Select the desired output resolution.

NOTE: If you select a resolution that is greater than what your VGA monitor supports, you may have to reset your DVR's resolution to factory defaults. To do so, simply press and hold the Stop button on the front panel of the system until the system restarts. Your system resolution will default to 1024 x 768.

2 Click **Apply** to save your settings.

Adjusting Transparency

To adjust the interface transparency:

1 Drag the Transparency slider to the desired settings.

2 Click **Apply** to save your settings.

Adjusting the video margin

If you connect your DVR to a BNC monitor, you can adjust the video margins.

To adjust the video margin:

1 Click the **Margin** button.

2 Drag the sliders to the left or right to adjust the following: Left Margin, Top Margin, or Bottom Margin.

3 Click **Apply** to save your settings.

Adding a privacy zone

A privacy zone allows you to block out a desired portion of the channel with a black square.

To configure a privacy zone:

1 In the Channel drop-down menu, select the channel you wish to configure.

2 Click the **Privacy Zone** tab.

3 Configure the following:

- **Channel**: Select the desired channel you wish to configure.
- **Privacy Zone**: Select **ON** to enable the privacy zone. Select **OFF** to disable the privacy zone.
- **Area Setup**: Select the Area1 checkbox to enable a privacy zone.

4 Beside "Mask Area", click the **Setup** button.

5 Drag your mouse cursor over the desired area that you wish to block out.

6 Right-click to exit, and then click **Apply** to save your settings.

Record

The Record menu allows you to configure recording resolution, and remote streaming resolution.

Configuring Pre-recording Settings

To configure pre-recording settings:

1. In the Channel drop-down menu, select the desired channel you wish to configure.
2. In the Pre-record drop-down menu, select Enable to enable pre-recording.
3. Click **Apply** to save your settings.

Configuring Backup File Duration (Pack Duration)

"Pack Duration" refers to the duration of a backed up file in the system. By default, a recording is "packaged" into 15 minute video files.

To change the DVR's backed up file size:

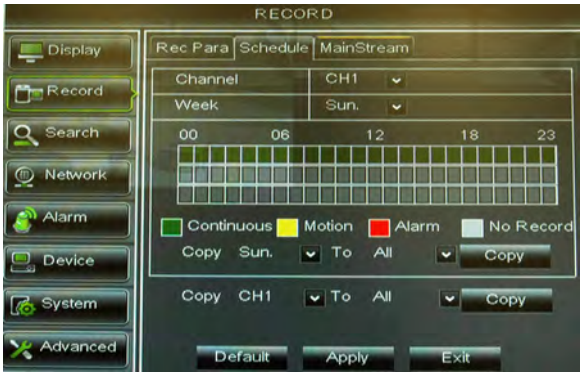
1. In the Pack Duration drop-down menu, select the desired duration (15~60 minutes).
2. Click **Apply** to save your settings.

After changing the file size, your backed up files will be a certain duration. For example, if you selected 15 minutes as your file size, the system stores video files in 15 minute durations.

Configuring the recording type (Continuous, Motion, Alarm)

To configure the recording schedule:

1. Click the **Schedule** tab.
2. Configure the following:
   - **Channel**: Select the channel you wish to apply the settings to.
   - **Week**: Select the desired day you wish to apply the setting to.
3. Click on the recording grid, and select the desired recording type (Continuous, Motion, Alarm). Note that each row represents a different recording type.



4. Click **Apply** to save your settings.

Enabling audio recording

Audio-capable cameras are required (not included) for audio recording.

To enable audio recording:

1 Click the **MainStream** tab.

2 Beside the corresponding channel, select or deselect the checkbox under **Audio** to enable or disable audio recording.

3 Click Apply to save your settings.

Configuring recording quality

To change the recording quality of the system:

1 Click the MainStream tab.

2 Under the Quality drop-down menu, select from **Good, Better**, or **Best**.

3 Click **Apply** to save your settings.

Search

The Search menu allows you to search for saved video on your system.

Video Search

To search for video on the system:

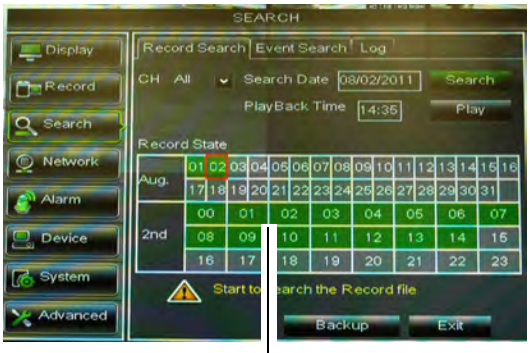
1 In the main menu, click **Search**, or click the Search Menu button ( ) in the menu bar.

2 In the "CH" drop-down menu, select the channel you wish to search under. If you want to search under all the channels, select "All" in the drop-down menu.

3 Click the "Search Date" field, to enter the desired month, date, and year you wish to begin searching for video.

Search Date

4 In the calendar, double-click on the desired date.



Double-click on desired date

5 Select the desired channels that you wish to view playback.

6 Click the **Play** button to begin playback.

Video Playback Controls

Move the mouse slightly to display the on-screen playback controls. You can also use the playback control buttons on the remote control or front panel of the system.

Use the video control buttons to manipulate video playback.

- Drag the slider to adjust the volume (audio capable camera required, not included). Select the box to mute the audio.
- Click **X** to quit playback and return to the Search menu.

Backing up video files

You can back up video files on your USB flash drive.

To back up video files:

1 Perform a search.

2 Insert a blank USB flash drive in the rear panel of the system.

3 Click on the desired date you wish to back up.

4 Click the **Backup** button. A list of files appears in the Log menu.

Backup

5 Beside the desired file you wish to back up, click the Checkbox under "BAK".

6 Click the Backup button to begin copying the video files to your flash drive.

NOTE: You will need the Lorex Player to view the saved files. Refer to your software CD to install the Lorex Player.

Event Search

Event Search allows you to find videos that are marked as "Alarm" or "Normal" recording type. This allows you to quickly and easily sort though videos that only have alarm attributes.

To perform an Event Search:

1 Click the **Event Search** tab.

2 Configure the following to perform an Event search:

- **Search Date**: Enter the Month, Date, and Year.
- **CH**: Select the channels you wish to search under.
- **Search Time**: Enter the time range you wish to search between.
- **Type**: Select the recording type you wish to search for.

3 Click **Search**. A list populates with videos.

4 Perform one of the following:

- **Play video**: Double-click on the desired file.
- **Back up a file**: Connect a blank USB flash drive to your system. Select the checkbox

beside the desired file name. Next, click the Backup button.

Log Search

A log search allows you to search for all system event logs.

To perform a Log search:

1 Click the **Log** tab.

2 Configure the following to perform a Log search:

- **Log Type**: Select the log type you wish to search under. Choose from **Alarm** (i.e. motion events), **Operation** (i.e. hdd failure), or **All**.
- **Start Time**: Enter the time you wish to begin searching.
- **End Time**: Enter the time you wish to end searching.

3 Click the **Backup** button

Network

The Network menu allows you to configure the system's DDNS and network settings.

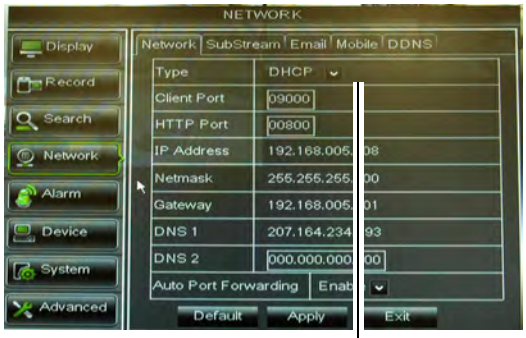
Configuring Network type: DHCP & Static IP

The system has the ability to operate in DHCP mode and Static IP mode.

DHCP allows the router to assign an IP to the DVR. Static IP mode fixes the IP of the DVR. Fixing an IP of the DVR ensures that the IP will not change.

To configure DHCP and Static IP settings:

1 In the TYPE drop-down menu, select **DHCP** or **Static**. If you select DHCP, the router automatically assigns an IP to your DVR.



Select DHCP or Static

- If you select Static, click the field beside IP Address, and enter in the IP address of your choice.
- Enter your custom NetMask, Gateway, DNS1 and DNS2 using the mouse.
- You must assign the IP in your router that you wish to make static. For example, if you assign 192.168.2.89 as the static IP in the DVR, you must assign 192.168.2.89 in your router as a static IP as well. Consult your router's user's manual for details.

2 Click **Apply** to save your settings.

Enabling Auto Port Forwarding

Auto Port Forwarding allows the DVR to open the required port on your router. Note that this works on most routers. If the auto port forwarding feature does not work on your router, you may have to manually open the port on your router. You can also use the Auto Port Forwarding Wizard, located on the software CD.

To Enable Auto Port Forwarding:

1 In the Auto Port Forwarding drop-down menu, select Enable or Disable.

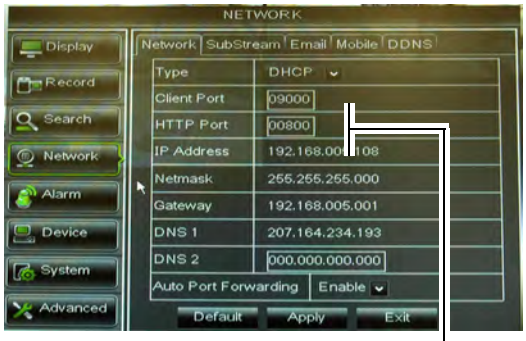
2 Click **Apply** to save your settings.

Changing the DVR's Client and HTTP Port

The DVR's Default Client port is **9000**. The default HTTP port is **80**. You must port forward the Client Port and HTTP port to your router for remote access.

To change the default Client port and HTTP port:

1 Click the field beside Client (**default port 9000**). Enter the desired client port.



Client Port & HTTP Port fields

2 Click the field beside HTTP Port (**default port 80**. Enter the desired HTTP port.

3 Click **Apply** to save your settings.

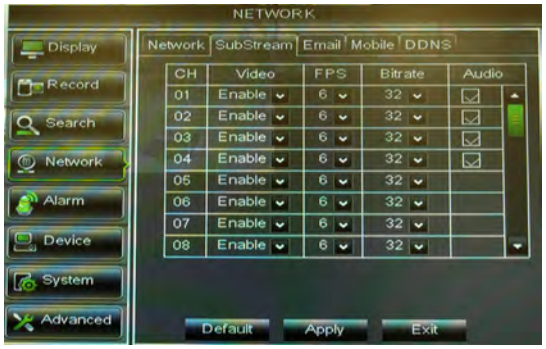
Adjusting remote connectivity streaming rates

You can adjust the data streaming rate (also called the SubStream) when you connect to the system remotely. If you want to conserve bandwidth, select a lower frame rate and bitrate.

NOTE: Setting your system to stream with a lower frame and bitrate may cause the video to appear choppy or slow.

To adjust the SubStream settings:

1 Click the **SubStream** tab.



2 Configure the following beside the desired channel:

- **Video:** Select Enabled or Disabled. If you select Disabled, you will not be able to view the channel when connecting remotely to the system.
- **FPS:** Select the desired frames per second. Choose from 1~6 FPS.
- **Bitrate**: Select the desired video bitrate. Choose from 8, 16, 24, 32, 48 or 64 .
- **Audio**: Select or deselect the checkbox to enable or disable the system from streaming audio when viewing the system remotely.

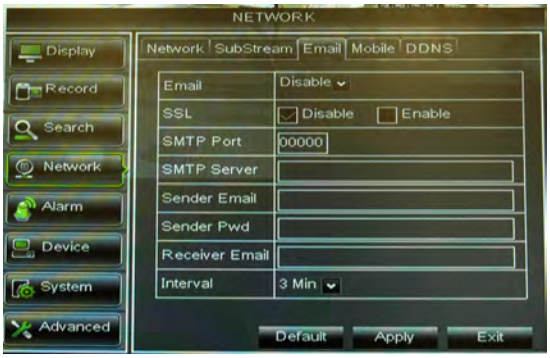
3 Click **Apply** to save your settings.

Setting up E-mail Notification

The system can send e-mail notifications when it detects motion, or when an alarm parameter triggers. The 16 channel model sends e-mail notifications if an alarm block device triggers (i.e. motion sensor detects movement).

To set up e-mail notification:

1 Click the **Email** tab in the Network menu.



2 From the "Email" drop-down menu, select from:

- **Enable**: Uses custom e-mail server settings.
- **Disable**: Disables e-mail notification.
- **Default**: Uses the Lorex e-mail server to send out alarm notifications. This is the recommended selection.

If you select "Enable", and want to use your own e-mail server, configure the following:

- **SSL**: Select **ON/OFF** to enable/disable Secure Socket Layer protocol
- **SMTP Port**: Enter your SMTP address
- **SMTP Server**: Enter your SMTP Server
- **Sender Email**: Enter the sender e-mail address. This can be any address of your choice

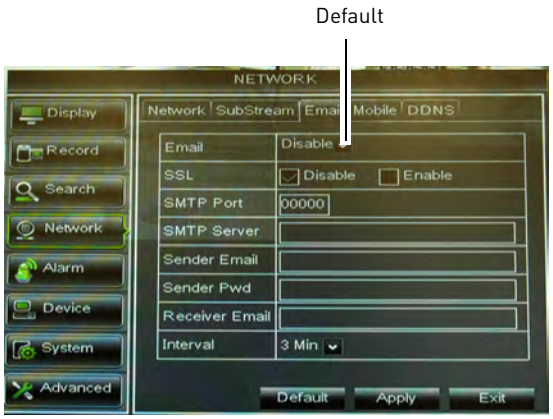
- **SenderPassword**: Enter your e-mail server's password
- **Receiver Email:** Enter the recipient's e-mail address
- **Interval:** Enter the interval the DVR waits before sending a new e-mail notification.

  For example, if you select a 3 minute interval, the DVR will send out e-mail notifications every 3 minutes until the DVR stops detecting motion / alarm. The DVR will only send out notifications when it detects motion/alarm triggers.

3 Click **Apply** to save your settings.

If you want to use Lorex's e-mail server:

1 In the Email drop-down menu, select **Default**.



2 In the "Sender Email" field, enter the e-mail address of the sender. This can be any e-mail address of your choice.

3 In the "Receiver Email" field, enter the e-mail address you want the DVR to send alarm notifications to.

4 In the "Interval" drop-down menu, enter the Duration the DVR must wait before sending out a new notification.

5 Click **Apply** to save your settings.

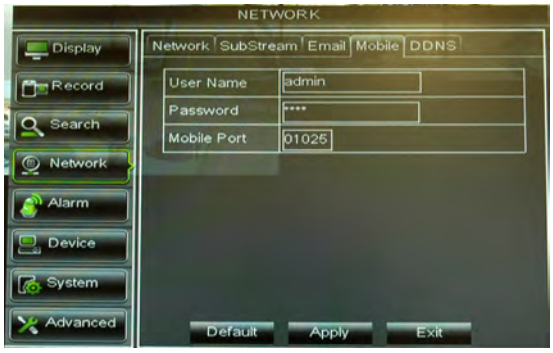
6 Click the **TEST** button to send out a test e-mail.

Configuring mobile connectivity settings

To remotely view your DVR using a mobile device, you must port forward the mobile port (by default port **1025**) to your router, and enter the mobile port number in the DVR.

To configure mobile connectivity settings:

1 From the Network menu, click the **Mobile** tab.



2 Enter a new user name and password if you want to change your mobile login password. By default, the user name is **admin**, and the password is **0000**.

- The default Mobile port is **1025**. This must be port forwarded on your router to enable remote access. Note that 1025 is represented as "01025".

3 To change the Mobile port, click the field beside Mobile Port to enter a new port.

4 Click **Apply** to save your settings.

Configuring DDNS settings

DDNS allows you to remotely connect to your system remotely. You must create a DDNS account, and enter your DDNS settings into the system before you can remotely view your system.

For details on creating a DDNS account, see “Remote Connectivity” on page 50.

To configure the system DDNS settings:

1 Click the **DDNS** tab in the Network Setup menu.

2 Configure the following:

- **DDNS**: Select **Enable**
- **Server**: Select **LOREXDDNS** (default).
- **Host Name**: Enter your Domain name/ URL Request from the confirmation email received after registering for DDNS.

NOTE: If the Domain name/URL request is *tomsmith*, the address to access your video will be *http://tomsmith.lorexddns.net*

- **User Name**: Enter your DDNS User Name from the confirmation email.
- **Password**: Enter your DDNS Device password from the confirmation email.

3 Click **Apply** to save your settings.

Alarm

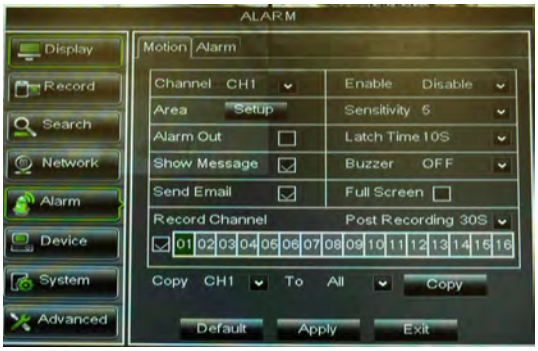
The Alarm tab allows you to configure Motion and Alarm settings.

Configuring Motion Settings

Configure motion settings to determine the area you wish to monitor for motion events, and the outcome if a motion event occurs.

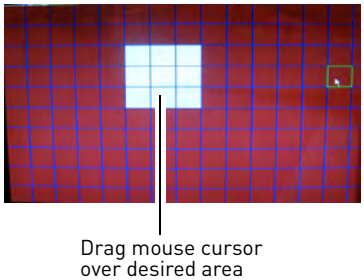
To configure motion settings:

1 From the main menu, click **Alarm→Motion**.



2 Configure the following:

- **Channel:** Select the channel you wish to configure.
- **Enable:** Select Enable or Disable to activate or deactivate motion recording.
- **Area:** Click the **Setup** button to configure the area of the screen that detects motion.



Drag the mouse cursor over the area you wish to monitor for motion. The grid turns from red to transparent. Right-click to exit.

- **Sensitivity:** Select motion sensitivity. The greater the number, the greater the sensitivity.
- **Alarm Out:** Select the checkbox to enable the system to trigger a device connected to the alarm block.
- **Latch Time:** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the checkbox to enable the system to "beep" if an alarm triggers.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers.
- **Record Channel**: Select the channel you wish the DVR to record during motion recording.
- **Record Delay:** Select the duration the system continues to record as an event after the alarm trigger ends. For example, if you select 30s (30 seconds), the system continues to record for 30 seconds after the alarm trigger ends.
- **Full Screen:** Select the Full Screen check box so that the system goes into full screen mode when motion or an alarm trigger is detected.
- **Post Recording**: Enter the post recording duration (the time the system continues to record after a motion event occurs).

3 Click **Apply** to save your settings.

Configuring Alarm Settings

The Alarm settings menu allows you to configure how the system behaves when an external alarm is triggered.

To configure the Alarm tab:

1 From the Alarm menu, click the **Alarm** tab.

2 Configure the following:

- **Alarm In:** Select the channel you wish to configure.
- **Alarm Type:** Select the alarm type of the device. Choose from N/O (normally open), N/C (normally closed).
- **Alarm Out:** Select the checkbox to enable the system's alarm block to trigger a connected external alarm.
- **Latch Time :** Enter the duration the alarm continues to trigger after the event ends.
- **Show Message:** Select the checkbox if you want the system to display a system message when an alarm triggers.
- **Buzzer:** Select the checkbox to enable the system to "beep" if an alarm triggers.
- **Send Email:** Select the checkbox if you want the system to send email notifications if an alarm triggers.
- **Post Recording:** Select the duration the system continues to record as an event after the alarm trigger ends. For example, if you select 30s (30 seconds), the system continues to record for 30 seconds after the alarm trigger ends.
- **Full Screen:** Select the Full Screen check box so that the system goes into full screen mode when motion or an alarm trigger is detected.

3 Click **Apply** to save your settings.

Device

The Device menu allows you to configure hard drive, PTZ, settings.

Configuring Hard Drive settings

To format the hard drive:

1 From the main menu, click **Device**.

2 Click the checkbox under Select to choose the drive you wish to reformat.

3 Click **Format HDD**.

4 When the warning window appears, click **OK**. Wait for the system to format the hard drive.

To set the hard drive recording mode (loop recording or linear recording):

1 From thhe main menu, click **Device→HDD**.

2 Select the checkbox beside the hard drive you wish to configure.

3 In the "Overwrite" drop-down menu, select Auto. (recommended), or select the desired duration the hard drive should retain its data.

NOTE: If overwrite recording is enabled, the system's hard drive automatically re-writes the hard drive's oldest content (first in first out).

4 Click **Apply** to save your settings.

Formatting a USB memory stick

1 Insert a USB memory stick into the rear panel of the system.

2 In the main menu, **Device→HDD**.

3 Under the "Select" checkbox, select the USB memory drive.

4 Click **Format USB**, and follow the on-screen instructions.

Configuring PTZ settings

If you have a PTZ (pan/tilt/zoom) camera, you will have to configure the settings on the system. Please note that you will need your PTZ manufacturer's documentation in order to configure the PTZ camera on this system.

To configure PTZ settings:

1 In the main menu, click **Device→PTZ**.

2 Configure the following according to your PTZ camera's specifications:

- **Channel**: Select the channel the PTZ camera is connected to.
- **Protocol**: Select from **Pelco-D** or **Pelco-P**
- **Baude** rate: Select the PTZ camera's baude rate
- **Data Bit**: Select from **5~8** data bits.
- **Stop Bit**: Select from **1 or 2** stop bits.
- **Parity**: Select from **None, Odd, Even, Mark** or **Space**.
- **Cruise**: Select **On** to enable PTZ cruise.
- **Address**: Enter the PTZ camera's address

Use the Copy To drop-down menu to copy the PTZ settings to multiple channels.

3 Click **Apply** to save your settings.

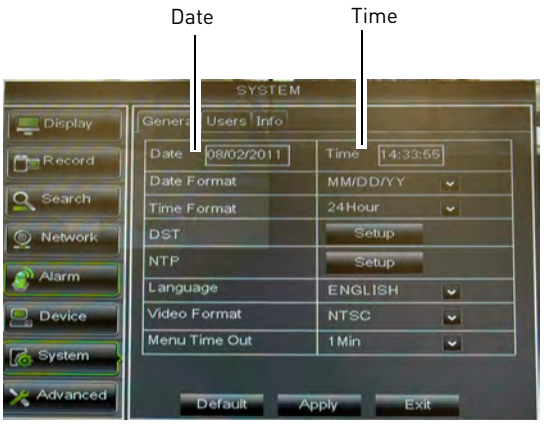
System

The System tab allows you to configure the system time, and user accounts.

Configuring the system date and time

To change the system date and time:

1 In the Date and Time drop-down menu, enter the desired date and time.



2 Click **Apply** to save your settings.

Changing Date format

You can change the way the system displays the time (i.e. Month, Day, Year)

To change the date format:

1 Beside the Time Format drop-down menu, select the desired format. Choose from **MM/DD/YY** (Month, Day, Year), **YY/MM/DD** (Year, Month, Date), or **DD/MM/YY** (Day, Month, Year).

2 Click **Apply** to save your settings.

Changing Time format

You can change the way the system displays the date and time format (i.e 6:00 pm or 18:00).

To change the time format:

1 In the Time Format drop-down menu, select **12Hour** or **24Hour**.

2 Click **Apply** to save your settings.

Configuring DST (Daylight Savings Time)

- For details on how to configure Daylight Savings Time on your system, see "Configuring Daylight Savings Time (DST)" on page 17.

Changing the system language

To change the system's language:

1 Beside the Language drop-down menu, select your desired system language.

2 Click **Apply** to save your settings.

3 Right-click until you exit the menu. Follow the on-screen instructions to restart your system.

Changing video output - NTSC & PAL

To change the video output:

1 In the Video Format drop-down menu, select NTSC or PAL.

2 Click **Apply** to save your settings.

Configuring Auto Logout

Auto Logout allows the system to lock itself after a set duration of inactivity.

To configure Auto Logout:

1 From the main menu, click **System→General**. In the Menu Time out drop-down menu, select the desired time before the system locks itself.

2 Click **Apply** to save your settings.

NOTE: You will need your system's user name and password to unlock the system.

Adding Users & Changing the Admin password

- For details on changing admin and user passwords, see "Managing Passwords" on page 25.
- For details on creating User accounts, see "Adding users" on page 26.

Viewing system information

To view system information:

1 Click the **Info** tab.

- The following is displayed:
  - Device Type
  - Firmware Version
  - IE Version
  - IP Address (DVR's IP address)
  - MAC Address
  - DDNS Name
  - HDD Capacity
  - Video Format
  - Client Port
  - HTTP Port
  - Mobile Port

Advanced

The Advanced menu allows you to update system firmware, load system defaults.

Configuring the "Auto Reboot" feature

Auto Reboot allows the system to restart during a specified time and date. Restarting the system every so often ensures system stability.

To enable the Auto Reboot feature:

1 From the main menu, click **Advanced→Maintain**.

2 Configure the following:

- **Auto Reboot:** Select Enable or Disable to activate or deactivate the Auto Reboot feature.
- **Reboot:** In the drop down menu, select how often the system restarts. Choose from **Every day**, **Every Week**, **Every Month**. Enter the desired day and time you want the system to restart.

3 Click **Apply** to save your settings.

Upgrading the system firmware

The latest firmware version can be found at www.lorextechnology.com.

Navigate to the appropriate product page, and locate your system's firmware.

Firmware updates improve system reliability, and may include new features for the system.

To upgrade the system firmware:

1 Download and extract the firmware into a blank USB flash drive. The firmware should be in a folder named **dvrupgrade**. Ensure that this is the only folder in the USB drive.

2 Insert the flash drive into the rear panel of your system. Ensure the USB flash drive is plugged into the appropriate USB port, and not the USB mouse port.

3 From the main menu, click **Advance**.

4 Click **Update**.

5 Follow the on-screen instructions to update the firmware. **Do not remove the USB flash drive during the firmware update**. Wait for the system to reboot.

Loading System Defaults

Loading the system defaults restores the system's configuration to the factory settings.

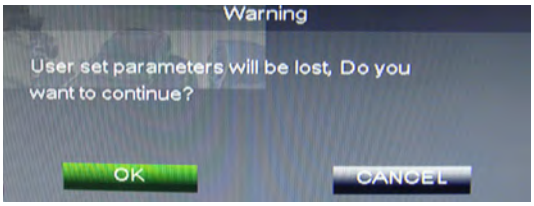
To load system defaults:

1 From the main menu, click **Advance→Load Default**.

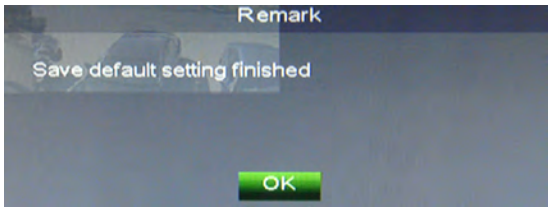
2 Select the menus that you wish to restore to default settings.

3 Click **Apply**.

4 When the warning window appears, click **OK** to restore your settings.



5 Click **OK** to return to the menu.



6 The system prompts you to restart.

Restarting or shutting down the system

To restart or shut down the system:

1 From the main menu, click Advance.

2 Click **Reboot** or **Shut Down**.

Reboot / Shut Down

3 Follow the on-screen instructions to restart or shut down your system.

Configuring system warnings

The system can send out e-mail notifications, or trigger a connected alarm device if it detects system abnormalities. For example, the system can send out a warning if the hard drive is low on storage.

To configure system warnings:

1 From the main menu, click **Advanced→Events**.

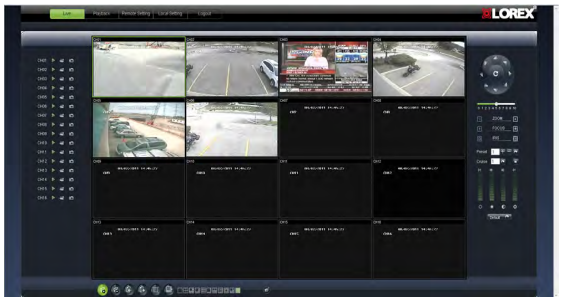
2 Configure the following:

- **Event Type**: Select the event that triggers the system to send out a notification or alarm trigger. Choose from **Disk No Space** (low hard drive space), **Disk Error** (hard drive error), or **Video Loss**.
- **Enable**: Select enable or disable to activate or deactivate the system from sending out notifications.
- **Alarm Out**: Select the checkbox to enable alarm out devices from triggering.
- **Show Message**: Select the checkbox for the system to display an error message when an event occurs.
- **Send Email**: Select the checkbox for the system to send out e-mail notifications when a system error occurs. Note, e-mail notifications must be configured.
- **Latch Time**: Select the delay duration in the drop-down menu.
- **Buzzer**: Select the buzzer (system beep) duration when the system detects a system error.

3 Click **Apply** to save your settings.

Remote Connectivity

The system features a built-in browser-based software that allows you to access your system remotely over your local area network (LAN) or over the Internet using Internet Explorer® (PC) or Safari® (Mac).



PC remote viewing

For details on navigating the PC remote viewing interface, see "Remote Viewing" on page 59.

Mac remote viewing

For details on navigating the Mac remote viewing interface, see "Appendix N: Remote Viewing (Mac)" on page 119.

System Requirements

Prior to using Lorex Web Client, make sure your system meets or exceeds the following system requirements:

Description	Requirement
CPU	Pentium® 4 or above
Operating System	Windows XP/Vista/7 Mac OSX 10.6.6 only (Intel processors only)**
Memory	256 MB RAM or greater
Video	16 MB of video memory
Network (LAN)	10/100 BaseT Network
Network (WAN)	384 Kbps upstream* *High-speed Internet service is recommended when using DVR Netviewer.
Browser	Internet Explorer 6 or later (PC) / Safari 5.0 only ** (Mac)

NOTE: If a user connects to the system remotely, there may be slow performance when accessing the system locally. This is normal, and not a malfunction.

** For the latest compatibility, check www.lorextechnology.com, as new software versions are released to the market.

Accessing your DVR within a local network (LAN)

You can connect to your DVR through Internet Explorer through the local area network (LAN).

NOTE: This method only works if your computer is on the same network as the DVR.

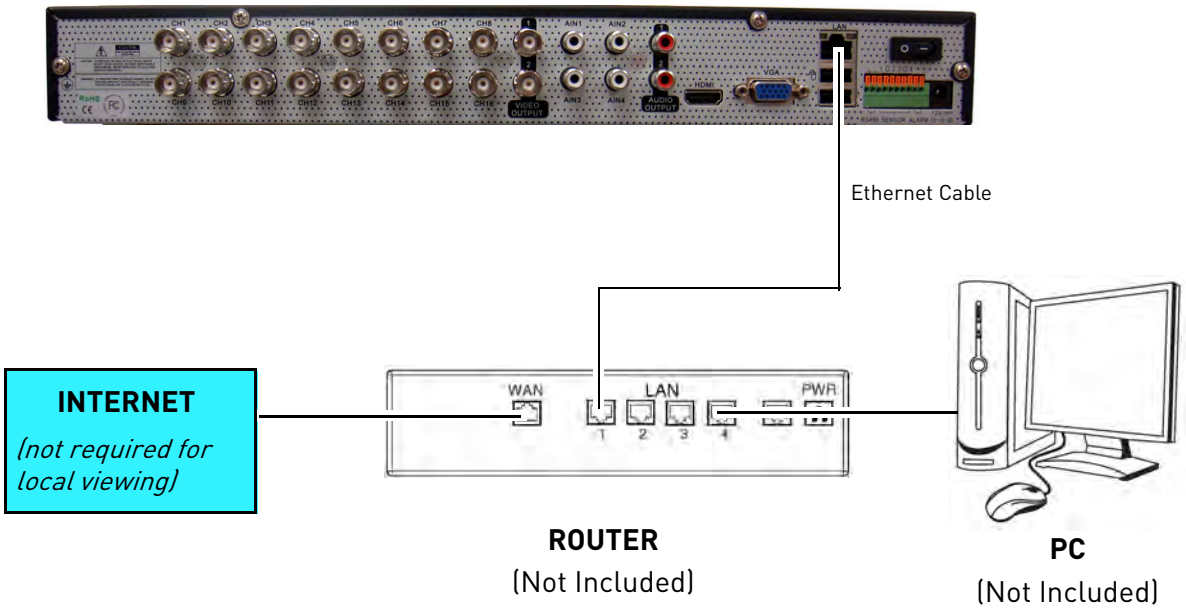
Prerequisites

- Connect the ethernet cable from your router to the DVR
- DVR must be in the same network as the computer connecting to the DVR

To connect your DVR to the Local Area Network (LAN):

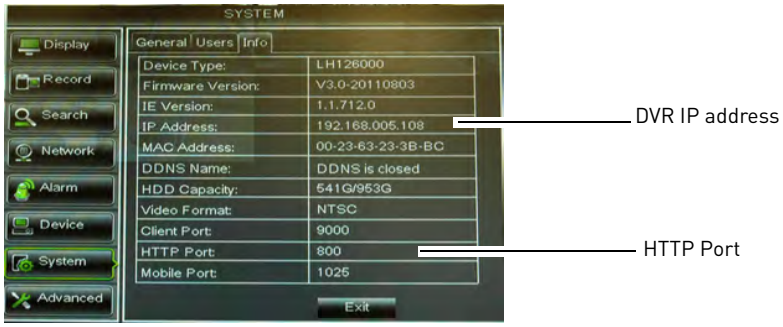
1. Power off your system by disconnecting the power cable from the rear panel.
2. Connect an Ethernet cable (included) to the LAN port on the rear panel of the system. Connect the other end of the Ethernet cable to an empty LAN port (usually numbered 1~4) on your router.
3. Reconnect the power cable to power the system back on.

NOTE: Make sure the power switch is set to **I**.



Step 1 of 2 : Obtain the DVR's local IP address and HTTP Port

1 Press the **PTZ** button on the front panel of the system to open the System Information window.



2 Write down the IP address and HTTP Port number of the DVR.

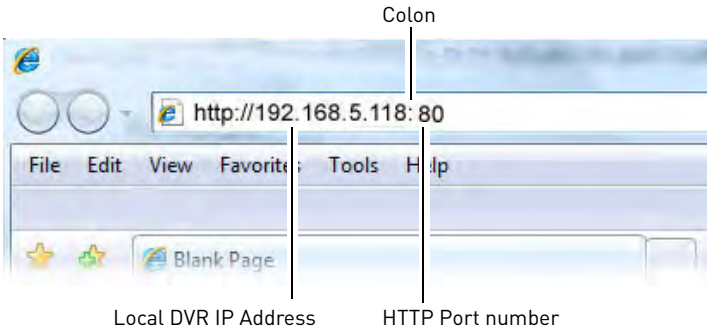
- A local IP looks something like this: 192.168.5.118. Note that single digit n umbers appear as three digits. For example, "005" means "5".
- Write down the port number beside the HTTP Port field.

Step 2 of 2: Enter the DVR's local IP address into the browser

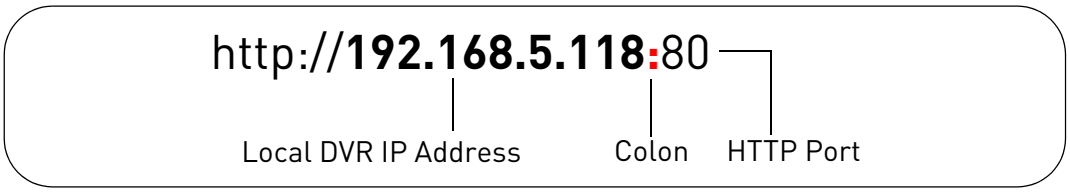
1 Open Internet Explorer (PC) or Safari (Mac).

2 Enter **http://**, the **IP address of the DVR, colon** and **HTTP Port number of the DVR** into the address bar. You must include colon and the HTTP port number of the DVR after the address (i.e. 192.168.5.118**:**80)

For example:



Example of a LAN address



3 Enter the DVR username and password to log in to the system. By default, the username is **admin**, and the password is left blank.

NOTE: You must install ActiveX controls to connect to the DVR. Click inside the attention bar and select **Install ActiveX controls**.

Accessing your DVR Remotely

Setting up remote connectivity allows you to view your DVR from any computer or compatible mobile device with internet access.

To set up remote connectivity with your DVR, you must:

1. Port Forward ports **80, 9000, and 1025** on your router to your DVR's IP address
2. Create a DDNS account
3. Enable DDNS on the DVR
4. Enter the DDNS information into the DVR

Step 1 of 4: Port Forwarding

You **must** port forward ports **80, 9000, and 1025** on your router before you can remotely connect to your system. There are several methods to port forward your router:

- Use the **Lorex Auto Port Forwarding Wizard** (PC only) to port forward the required ports (see CD for details). For instructions on how to use the Auto Port Forwarding Wizard, see "Appendix E: Internet Setup Wizard (PC only)" on page 100.
- Manually port forward the required ports on your router to your DVR's IP address by following your router manufacturer's instructions.

NOTE: If the above ports are not forwarded on your router, you will not be able to access your system remotely.

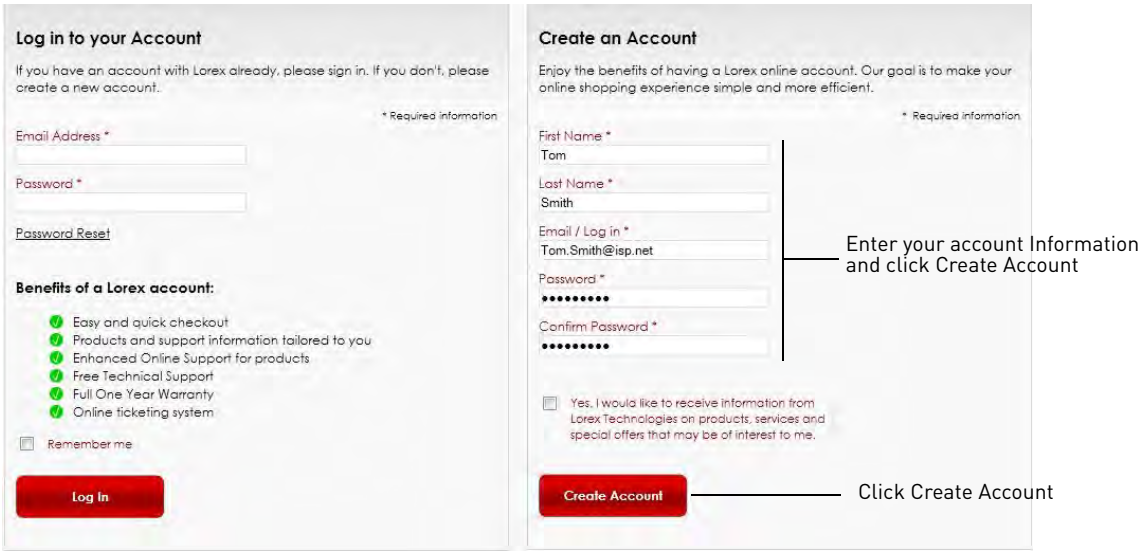
Step 2 of 4: Create a DDNS Account

Lorex offers a free DDNS service for use with your system. A DDNS account allows you to set up a web site address that points back to your local network. This allows you to connect to your system remotely. **You must create a DDNS account in the same network as your DVR.**

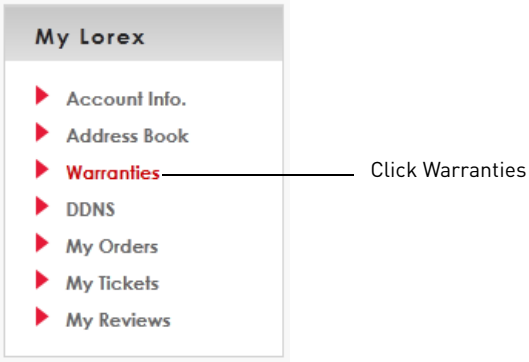
To setup your free Lorex DDNS account:

1. In your browser, go to www.lorexddns.net and click **Step 1**.

2 The My Lorex account login screen opens (if you are already logged in, skip to step 4). Create a new account or log into an existing account. To create a new account, fill in the required fields on the right and click **Create Account**.



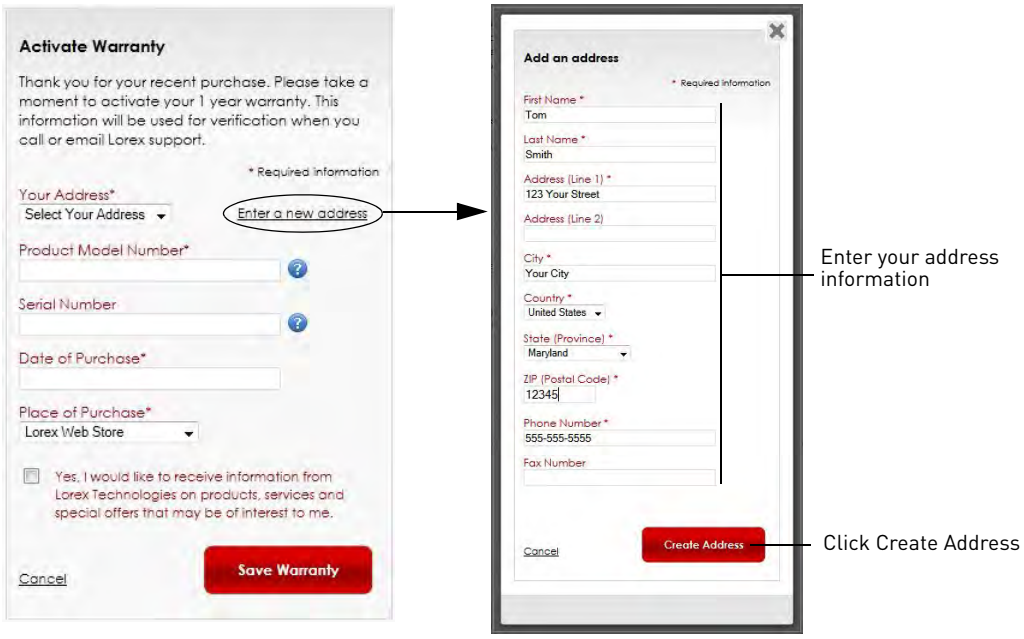
3 Click **Warranties** to register your product for warranty.



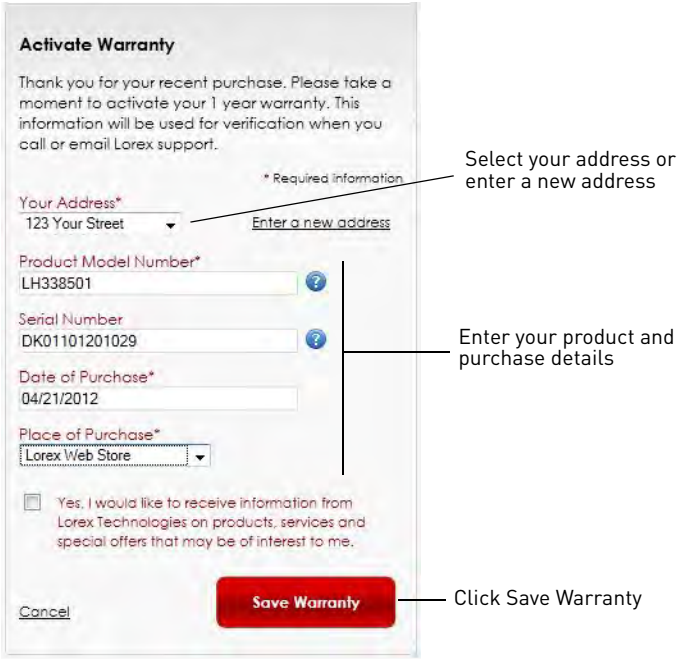
NOTE: Warranty registration is required to register for DDNS.

4 The Warranty page opens. Click **Activate Warranty**.

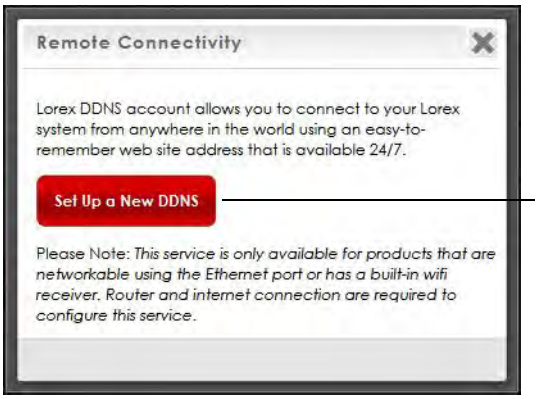
5 Under Your Address, select an address or click **Enter a New Address** to create a new address. Fill in your address information and click **Create Address**.



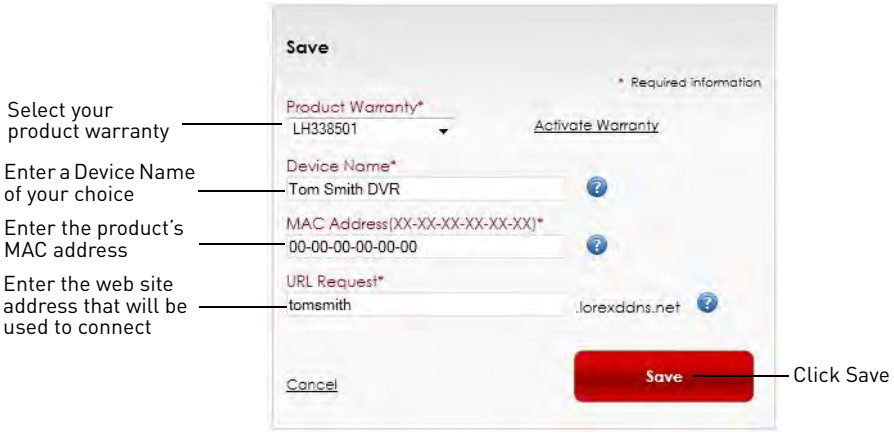
6 Fill in the warranty registration form with your product and purchase details. Check the sticker underneath your DVR for the Product Model Number and Serial Number. Click **Save Warranty**.



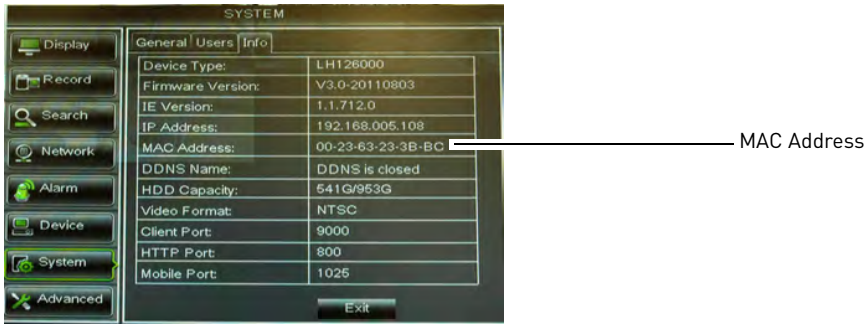
7 A page pops up to prompt you to register your product for Lorex DDNS. Click **Set Up a New DDNS**.



8 Fill out the My DDNS form:



- **Product Warranty:** Select the product warranty you created in the previous steps.
- **Device Name:** Enter a name for your device. You can enter your name, business name, or anything of your choice. This is used to identify this device in your list of activated DDNS accounts that appears anytime you visit the DDNS page.
- **MAC Address:** Enter the MAC address of your Lorex product. Press the **PTZ** button on the front panel to find your MAC address. A MAC address is a permanent, unique 12-digit address used to identify a device on a network.



- **URL Request:** Enter the web site address that will be used to connect to your Lorex product.

NOTE: For example, if you enter *tomsmith*, the address to access your video will be *http://tomsmith.lorexddns.net*

Click **Save** to register your product for DDNS. A confirmation email will be sent to the email address used to register for My Lorex.

You will need this information for remote access to your system. Record your information below:

Domain name/URL Request: _

DDNS User Name: _

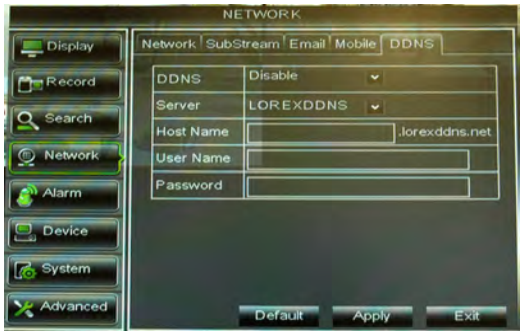
DDNS Device password: _

Step 3 of 4: Enable DDNS on the DVR

To enable DDNS in your DVR:

1 Right-click to open the menu bar and click the Main Menu button ( ).

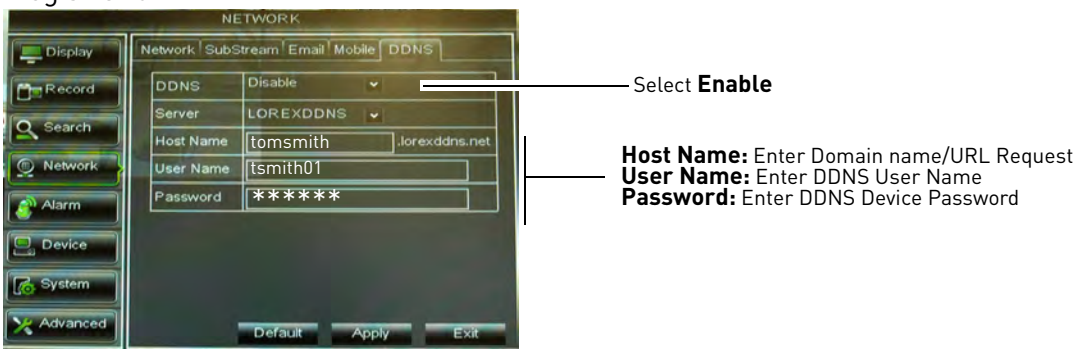
2 Click **Network→DDNS.**



3 In the DDNS drop-down menu, select **Enable**. Beside Server, select **LOREXDDNS** (default).

4 Enter the following into the DDNS Setup menu:

- **Host Name**: Enter the Domain name/URL Request that was emailed to you after DDNS registration.
- **User Name**: Enter your DDNS User Name that was e-mailed to you after DDNS registration.
- **Password**: Enter your DDNS Device Password that was e-mailed to you after DDNS registration.



Example of entering DDNS information in the DDNS setup menu.

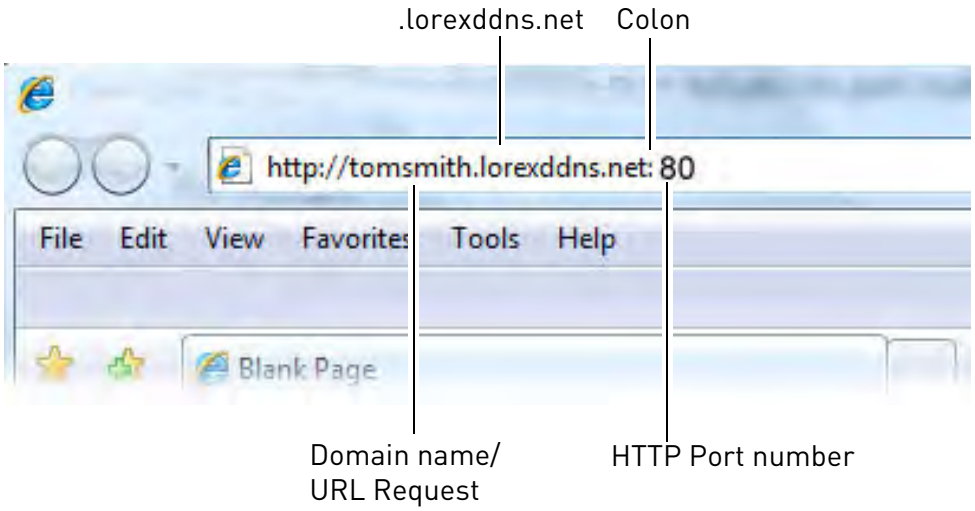
5 Click **Apply** to save your settings. Click **OK**.

Step 4 of 4: Enter the DDNS Address into the browser

NOTE: Please allow 10~15 minutes for the DDNS servers to update with your new DDNS address before attempting to connect.

To access your DVR remotely, enter the DDNS address that you created earlier into Internet Explorer. The DDNS address must include **http://** , the Domain name/URL Request created by you, followed by **.lorexddns.net**, **a colon**, and then the **HTTP port number of your DVR**.

For example:



Example of a DDNS address

http://tomsmith.lorexddns.net:80

Domain name/URL
Request created by you

Colon

HTTP Port number

Once you have entered your DDNS address into Internet Explorer, enter your DVR user name and password at the login screen.

NOTE: To log in remotely, the default user name is **admin.** The password **is left blank.**

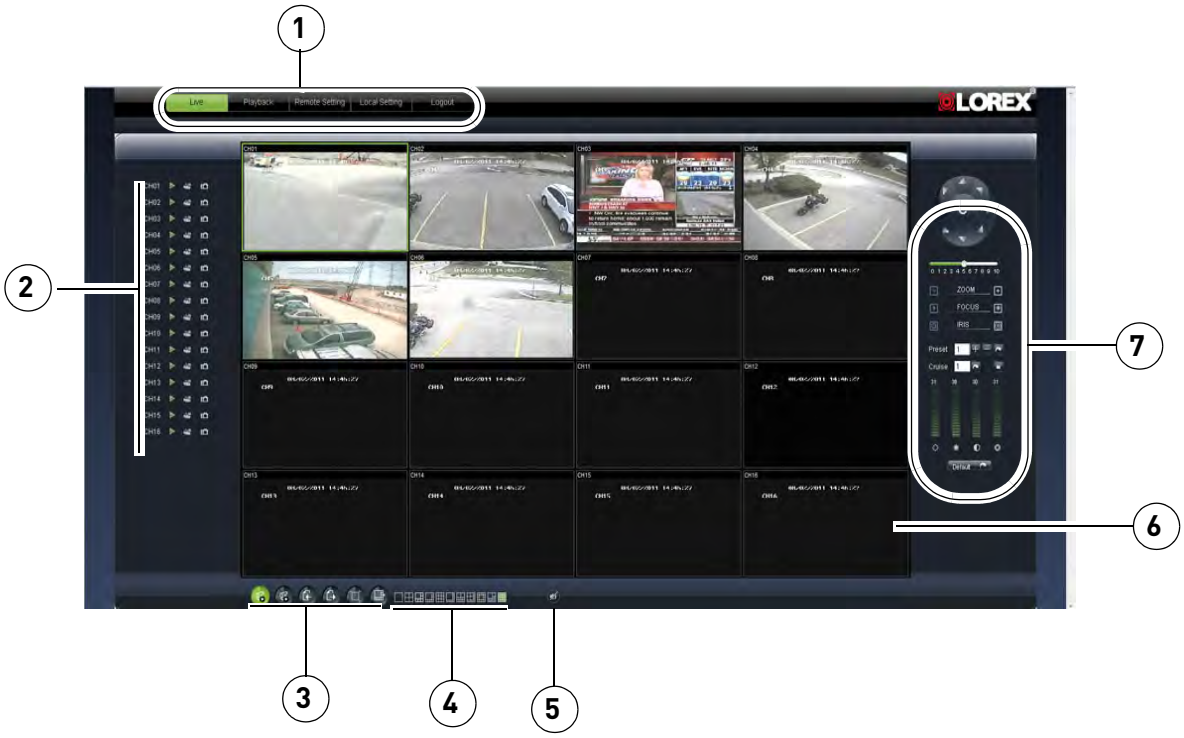
Remote Viewing

Remote Viewing on the Mac

- The interface is identical to PC remote viewing, with the exception of the Search menu. For details, see "Appendix N: Remote Viewing (Mac)" on page 119.

Remote Viewing on the PC

Upon login, the Remote Surveillance main screen opens in your browser.



1 **Navigation Tabs**: Allows you to access the following tabs:

- **Live**: Live view of video.
- **Playback**: Revisit archived video footage.
- **Remote Setting**: Configure system and networking options.
- **Local setting**: Configure where local files are stored on your hard drive.
- **Logout**: Exits remote viewing.

2 **Active Channel List:** Displays channels that are currently live.

3 **Viewing options**:

- : Click to open all connected channels.
- : Click to open the selected channel in full screen view.
- : Previous Page
- : Next Page
- : Click to close all connected channels. Note that the system continues to record even though you closed all the channels remotely.
- Click to select the desired split-screen viewing options.

4 **Split screen viewing**: Click the desired viewing mode.

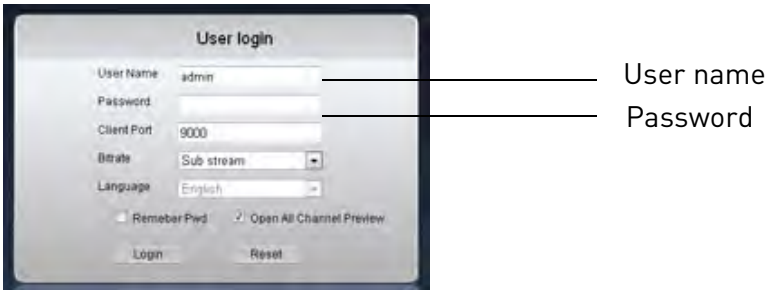
5 **Mute**: Click to mute audio.

6 **Main Screen**: Main display screen for live viewing and playback. You can also drag the screens to any desired position.

7 **PTZ Controls**: PTZ (Pan, Tilt, Zoom) control for connected PTZ cameras (not included).

Logging into the system

Log in to your system to begin remotely monitoring the system.



To log in to the DVR:

1 In the User Name field, enter **admin.**

2 In the Password field, leave the entry blank (default).

NOTE: By default, the user name is admin. The password is left blank.

3 Click **Login** to connect to the system.

Changing Viewing Modes

You can change the number of channels that the system displays simultaneously (i.e. split screen mode, single channel mode etc.)

To change the DVR's viewing mode:

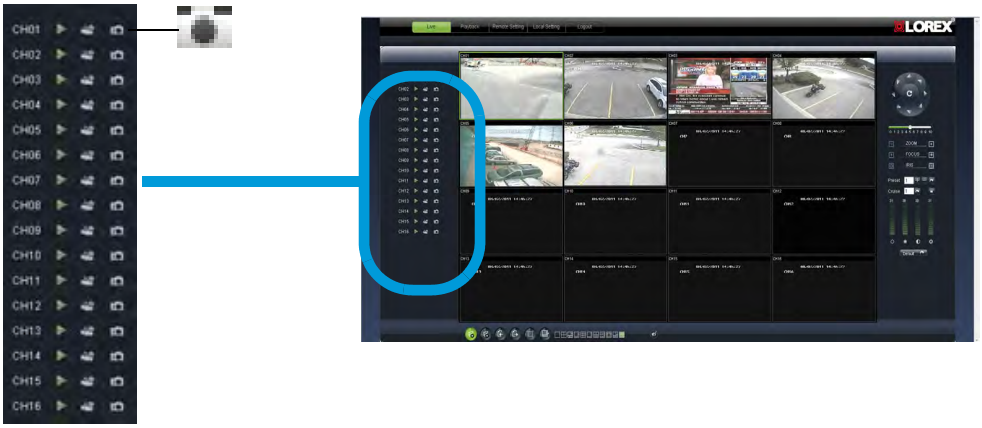
• Click ( ), then click of the following:

Taking Screen Shots

The system can take screen shots of a selected channel during live playback.

To take a screen shot of a channel:

1 Click beside the desired channel to capture an image.



2 A pop-up window opens on the bottom left corner of the window. Click Preview to view the image.

If you receive an error taking a screen shot:

You may receive an error when taking a screen capture. This is caused by an Internet Explorer security setting.

To reduce the security setting in Internet Explorer:

1 Click on **Tools→Internet Options**. (In IE9, click the gear icon on the top-right corner).

2 Click the **Security** tab.

3 De-select "Enable Protected Mode".

4 Click **Apply** to save your settings.

5 Refresh Internet Explorer.

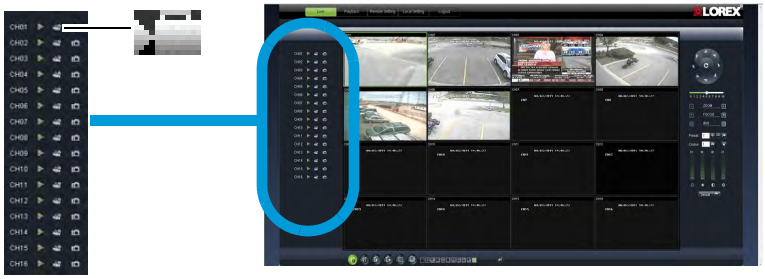
Recording Video

You can record video footage directly onto your local hard drive. Once the video is in your hard drive, you can back up the video footage onto recordable media such as USB memory keys and blank CD/DVD media.

To record video:

1 Click on the channel that you wish to capture video from.

2 Click [redacted] to record video. The video will record to the default save directory.

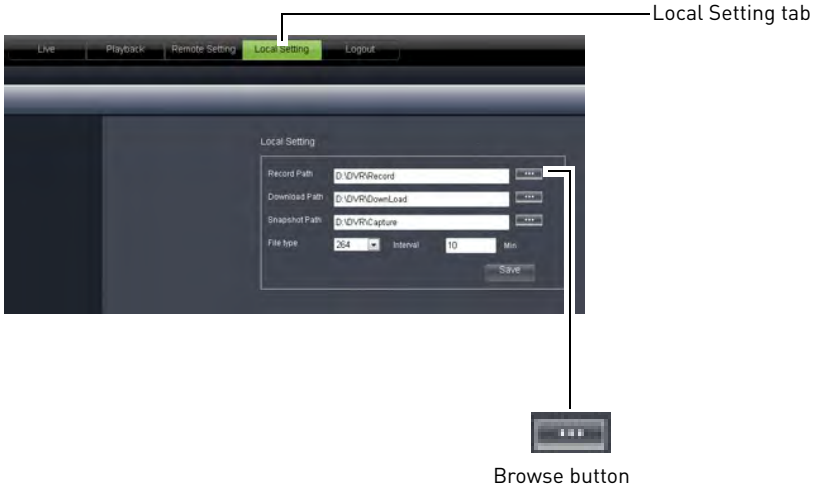


3 Click [redacted] to stop video recording.

To change the save directory of the image or recorded video:

1 Click the **Local Setting** tab near the top of the window.

2 Click [redacted] beside the desired category to browse for a save directory.



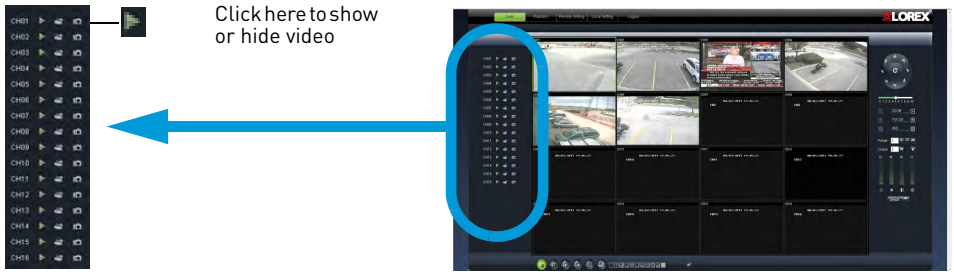
3 Select the desired save directory, and then click **OK**.

Showing & Hiding Channels

The Active Channel List is a convenient way to show / hide the cameras that display in the main viewing window.

To show or hide video in the main video window:

1 Click beside the channel number to show a channel. Click again to hide the channel.



Adjusting sub-menu options

The sub-menu option gives you quick access functions such as viewing video bit rate, and viewing video in its original resolution.

To open the sub-menu:

1 Right-click on a desired channel. A sub-menu opens.

2 Click on one of the following:

- **Show Bitrate**: Displays video bitrate.
- **Original Proportions**: Displays live video in original 4:3 video size.

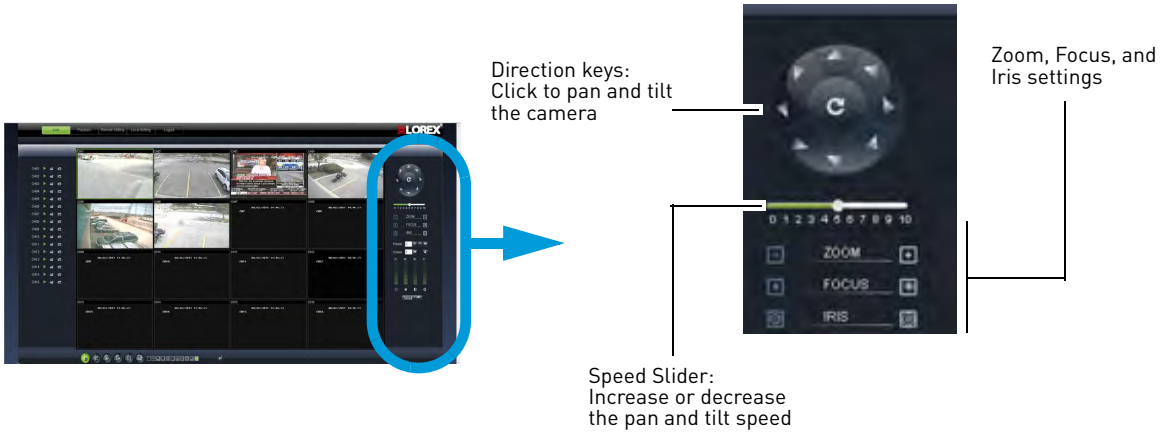
Configuring PTZ settings

The system supports PTZ (Pan, Tilt, Zoom cameras. PTZ cameras are sold separately.

- For details on connecting PTZ cameras to your system, see "Appendix H: Connecting a PTZ Camera" on page 111.

To control the PTZ settings on the DVR:

1. Select the channel the PTZ camera is connected to.
2. Use the PTZ control panel to control the pan, tilt, zoom, focus and iris control of the camera.



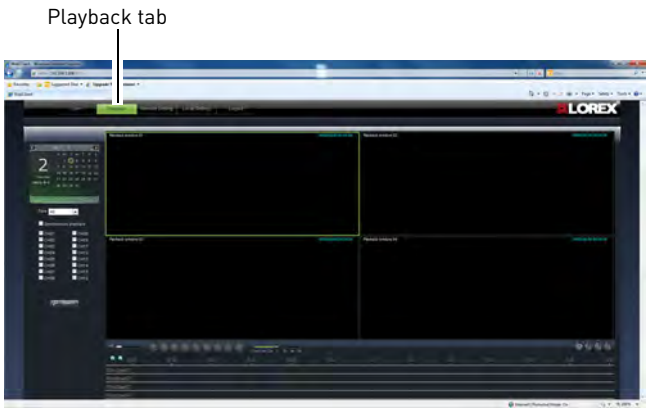
Video Playback (PC)

Video playback allows you to watch video that has been archived in the DVR's hard drive.

NOTE: Mac users, please see "Video Playback (Mac)" on page 123.

To playback video:

1 Click the **Playback** tab.



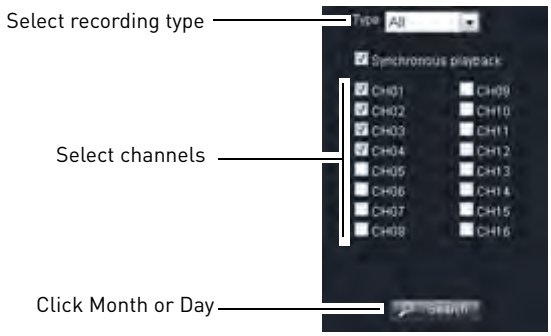
2 In the calendar window, click the desired month, year, and date.

3 Perform the following:

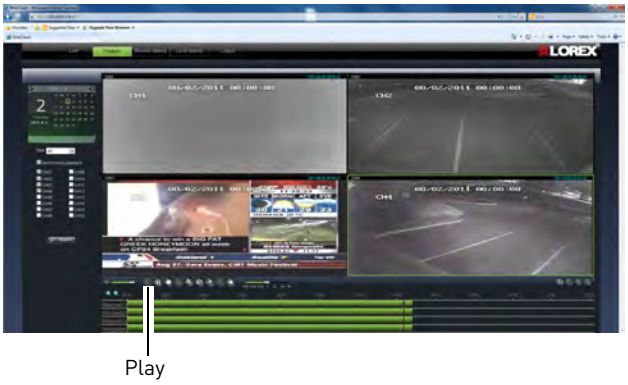
a. Under the Type drop-down menu, select the desired recording type you wish to search for (Normal or Alarm recording)

b. Select the channels you wish to search under

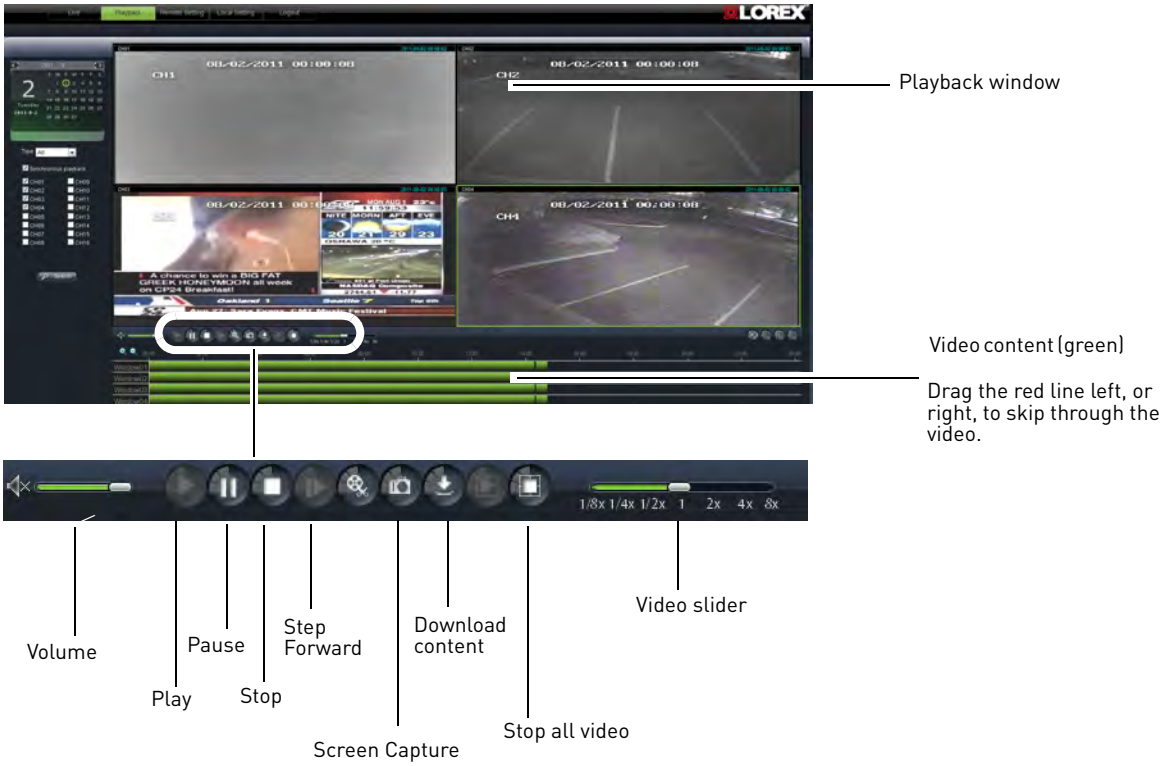
c. Click the **Search** button.



4 Click **Play** to begin playback.



Video Playback Controls



- **Step Forward**: Plays video frame by frame. Click the Step Forward button to advance the video by 1 frame.
- **Video Slider**: Drag the slider to view different parts of the video. You must wait for the content to download before jumping ahead of the video.
- **Download Content**: Click the Download Content button to reveal a list of videos that you can download to your local hard drive. To download video, select the channel you wish to back up, then click the download button.

Configuring OSD Settings

To configure system OSD settings:

1 Click the **Remote Setting tab→Display→Live.**

2 Configure the following:

- **Channel**: Select the channel you want to apply the settings to
- **Name**: Enter the name you wish to re-name the channel
- **Position**: Select the position of where the text appears in the channel.
- **Covert**: **Enable** or **Disable** covert recording.
- **Show Time**: Select **Enable** or **Disable** to show or hide the time in the channel
- **Record Time**: Select **Enable** or **Disable** to show or hide the record time.

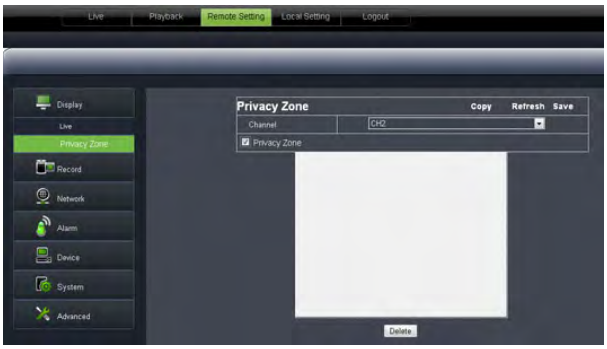
3 Click **Save** to apply your settings.

Configuring Privacy Zone Settings

You can blank out a certain portion of the channel with a black box.

To configure a privacy zone:

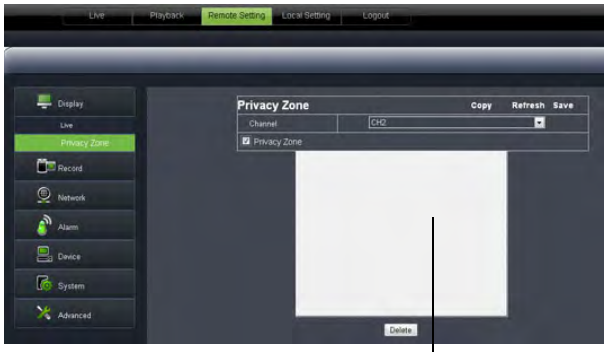
1 Click the **Remote Setting tab→Display→Privacy Zone**



2 In the Channel drop-down menu, select the channel you wish to configure.

3 Select the Privacy Zone checkbox to enable privacy masking.

4 Drag your mouse cursor over the area you wish to black out. A red box indicates the area that is masked (blocked out).
   • To remove the privacy area, click on the red box, then click the **Delete** button.



Drag mouse over desired area

5 Click **Save** to apply your settings.

Configuring Recording Parameters

To configure system recording parameters:

1 Click the **Remote Setting→Record→Rec Parameters.**

2 Configure the following:
   • **Channel**: Select the channel you wish to configure.
   • **Record**: Select Enable or Disable to start or stop system recording.
   • **Pack Duration**: Select the duration of each saved file on the system. For example, if you select 15 minutes, then every file will contain 15 minutes of footage.
   • **Pre-record**: Select whether to enable or disable pre-recording.

3 Click **Save** to apply your settings.

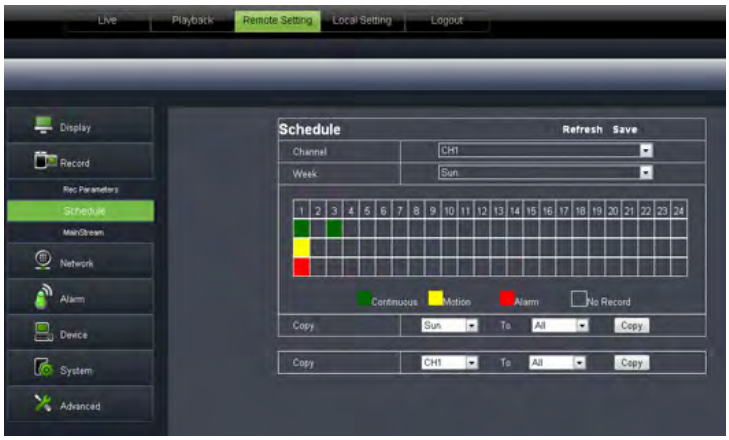
Configuring The Recording Schedule

To configure the recording schedule:

1 Click the **Remote Setting** tab →**Record**→**Schedule.**

2 Configure the following:

- **Channel** drop-down menu: Select the channel you wish to configure.
- **Week:** Select the day you would like to apply the settings to.



3 Click the recording grid, and select the type and duration of recording. The boxes are color coded to indicate recording type.

4 Click **Save** to apply your settings.

Configuring System Recording Quality

To configure system recording quality:

1 Click the **Remote Setting** tab→**Record**→**MainStream**.

2 Configure the Mainstream stream settings:

NOTE: Main stream refers to the local streaming of video content.

- **Channel:** Select the channel you wish to apply the settings to.
- **Resolution**: Select the desired recording resolution.
- **FPS (Framerate)**: Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
- **Bit Rate**: Select the desired video bit rate.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

3 Click **Save** to apply your settings.

Configuring Basic Network Settings

The basic network menu allows you to configure the network protocol type (DHCP or Static), UPnP and mobile phone login information.

To configure basic network settings:

1 Click the **Remote Setting** tab→**Network.**

2 Configure the following under Basic Configuration:

- **Type**: Select between DHCP or Static. If you select Static, you can edit the fields (i.e. IP address, Netmask, Gateway)
- **Auto Port Forwarding**: Enable or disable Auto Port Forwarding.

3 Click **Save** to apply your settings.

Configuring the system Substream

Sub stream refers to the remote streaming of video content (i.e. when you connect to your system via DDNS).

To configure the system's substream:

1 Click the **Remote Setting** tab→**Network**→**SubStream**.

2 Configure the Sub stream settings:

- **Channel:** Select the channel you wish to apply the settings to.
- **Resolution**: Select the desired recording resolution.
- **FPS (Framerate)**: Select the desired recording frame rate. Note that higher frame rates require greater bandwidth consumption during remote viewing.
- **Bit Rate**: Select the desired video bit rate.
- **Audio**: Select whether you want the system to record audio (audio cameras required, not included).

3 Click **Save** to apply your settings.

Configuring E-mail Notification Settings

To configure e-mail notification settings:

1 Click the **Remote Setting→Network→ Email**

2 Configure the following:

- Email drop-down menu: Select **Default** to use the default Lorex email server. Select Custom to use your custom SMTP email server.
- **SSL**: Enable or disable Secure Socket Layer (SSL).
- **SMTP Port**: Enter your SMTP port number*.
- **SMTP Server**: Enter your SMTP server address*.
- **Sender Email**: Enter the e-mail address that is sending out the notification*.
- **Sender Password**: Enter the e-mail password*.
- **Receiver Email**: Enter the email address of the person receiving the notification.
- **Interval**: Select the e-mail notification interval range.

*Available only when you select Custom email settings in the Email drop-down menu.

3 Click **Save** to apply your settings.

Configuring your system to "beep" during motion

You can set your system to "beep" during motion. This is useful to notify you if someone enters or exits a premise.

To configure the system to "beep" during motion:

1 Click the **Remote Setting** tab→**Motion**.

2 Beside the Channel drop-down menu, select the channel you wish to configure.

3 Select the "Enable" checkbox.

4 Beside the Buzzer drop-down menu, select the buzzer duration.

5 In the video window, select the area you wish to monitor for motion.

6 Click **Save** to apply your settings.

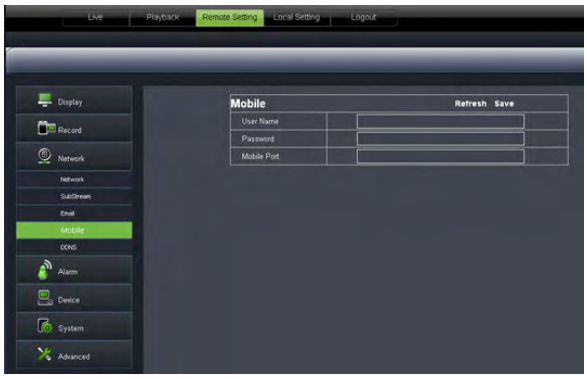
Result: The system beeps when it detects motion, and a green "M" icon appears. The green "M" icon indicates that the system is only detecting motion, but not recording. To have the system record motion events, enable motion recording in the recording calendar (**Remote Setting tab→Record→Schedule**).

Changing the Mobile Port

NOTE: When entering a new mobile port, be sure to port forward them to your router for changes to take effect.

To change the mobile port:

1 Click the **Remote Setting** tab→**Network**→**Mobile**.



2 Configure the following under Mobile setup:

NOTE: The user name and password applies only to mobile devices connecting to the system.

- **User name**: Enter the desired user name.
- **Password**: Enter the desired password.

3 **Mobile Port**: Enter the desired mobile port.

4 Click **Save** to apply your settings.

Configuring DDNS Settings

You must create a DDNS account before you can configure DDNS settings. See “Step 2 of 4: Create a DDNS Account” on page 53.

To configure DDNS settings:

1 Click the **Remote Setting tab→DDNS.**

2 Configure the following:

- **DDNS:** Select **Enable**.
- In the Server drop-down menu, select **LOREXDDNS**.
- **Host Name**: Enter the Domain name/URL Request that was emailed to you after DDNS registration.

NOTE: If the Domain name/URL Request is *tomsmith*, the address to access your video will be *http://tomsmith.lorexddns.net*

- **User Name**: Enter your DDNS User Name that was e-mailed to you after DDNS registration.
- **Password**: Enter your DDNS Device Password that was e-mailed to you after DDNS registration.

3 Click **Save** to apply your settings.

Configuring Motion Settings

To configure motion settings:

1 Click the **Remote SettingA→Alarm→Motion.**

2 Configure the following motion recording parameters:

- **Channel** drop-down menu: Select the channel you wish to apply the settings to.
- **Enable** checkbox: Select this checkbox to enable motion recording.
- **Sensitivity** drop-down menu: Select the desired motion detection sensitivity. The greater the value, the greater the motion sensitivity.
- **Buzzer**: Select whether the system will "beep" if the system detects a motion event.

- **Alarm Out**: Select the checkbox to trigger connected alarm devices.
- **Full Screen**: Select the checkbox so that the channel goes into full screen mode when motion is detected.
- **Enable Record**: Select to enable system recording when motion is detected.
- **Post Recording**: Select the post-recording time after a motion event occurs.
- **Record Channel**: Select the channels that should record during a motion event.
- **Show Message**: Select the checkbox to enable the system to display a warning message during a motion event.
- **Send Email**: Select the checkbox for the system to send a email notification during a motion event.

3 Drag your mouse cursor in the window to select the desired area to monitor the channel for motion.

4 Click **Save** to apply your settings.

Configuring Alarm Notifications

To configure alarm notifications:

1 Click the **Remote Setting tab→Alarm →Alarm.**

2 Configure the following:

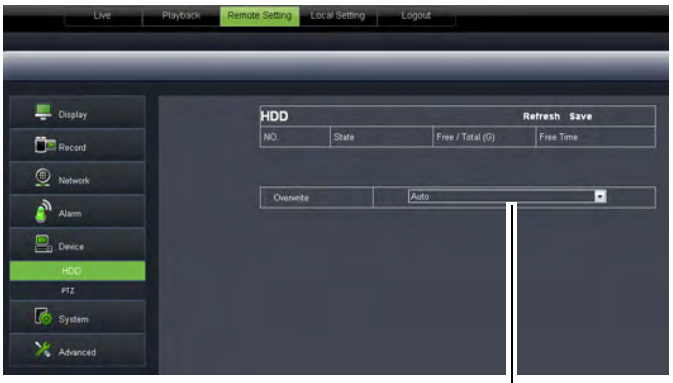
- **Alarm In**: Select the channel that you wish to configure.
- **Alarm Type**:Select the alarm type (N/O (normally open) or N/C (normally closed)).
- **Buzzer**: Select the "beep" duration when an event occurs.
- **Latch Time**: Select the desired latch time when an alarm triggers.
- **Show Message**: Select the checkbox so that the system displays a warning message during an alarm recording.
- **Send email**: Select the checkbox for the system to send out email alerts during an alarm recording.
- **Full Screen**: Select the checkbox to enable the system to go into full screen mode when an alarm triggers.
- **Alarm out**: Select the checkbox to enable alarm out devices to activate.
- **Enable Record:** Select the checkbox to enable system recording when an alarm triggers.
- **Post Recording**: Select the desired post recording time, after an alarm triggers.
- **Record Channel**: Select the channels that the system should record during an alarm trigger.

3 Click **Save** to apply your settings.

Configuring hard drive recording mode

To configure the hard drive recording mode:

1 Click the **Remote Setting tab→Device→HDD**.



Overwrite drop-down menu

2 In the Overwrite drop-down menu, select **Auto** to enable the hard drive to record in loop mode. Loop mode allows the system to record continuously. When the hard drive is full, the system deletes the oldest footage (first in, first out).

You can also select a desired amount of days or hours the system should retain data. For example, if you select 30 days, the hard drive will begin to overwrite itself after 30 days. Note that hard drive size determines the duration of hard drive recording.

3 Click **Save** to apply your settings.

Configuring PTZ Parameters

The system is capable of manipulating PTZ cameras (not included) that are connected to the system. Please note that you will need PTZ information from the PTZ manufacturer's users guide.

To configure PTZ settings:

1 Click the **Remote Setting tab→Device→PTZ.**

2 Configure the following:

- **Channel**: Select the channel that the PTZ camera connects to
- **Protocol**: Select the protocol of the PTZ camera*
- **Baud Rate**: Select the baude rate of the PTZ camera*
- **Data Bit**: Select the data bit rate of the PTZ camera*
- **Stop Bit**: Select the stop bit rate of the PTZ camera*
- **Parity**: Select the parity settings of the PTZ camera*
- **Cruise**: Select Enable or Disable*
- **Address**: Select the address of the PTZ camera*

*Consult the PTZ camera's instruction manual for protocol and configuration details

3 Click **Save** to apply your settings.

For details on connecting a PTZ camera to your system, see "Appendix H: Connecting a PTZ Camera" on page 111.

Configuring the system time

To configure the system time:

1 Click the **Remote Setting Tab→System→General**.

2 Configure the system format and time:

- **System Time**: Enter the desired system time.
- **Date Format**: Select the desired date format (i.e Month, Date, year etc.)
- **Time Format**: Select between 12 hour or 24 hour time formats.

3 Select **DST** to enable daylight savings time, or **NTP** to sync the time with a NTP time server.

Changing the system's menu time out

To change the system's time out menu:

1 In the Menu Timeout drop-down menu, select the duration the menu stays on screen before disappearing.

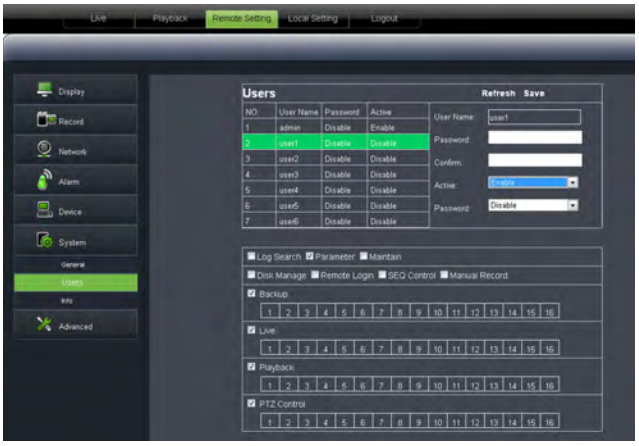
2 Click **Save** to apply your changes.

Configuring System User Accounts

You can add user accounts on the system.

To configure the user accounts menu:

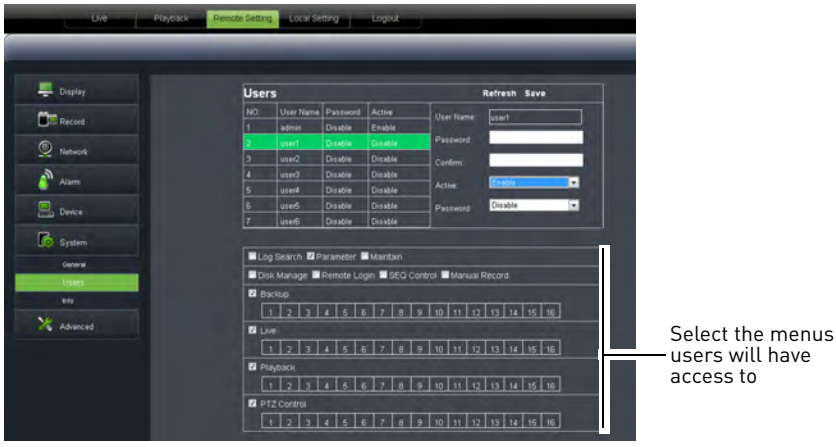
1 Click the **Remote Setting Tab→ System→Users**.



2 Configure the following:

- Click the desired user you wish to configure (i.e. user1)
- **User name**: Enter the desired user name.
- **Password**: Enter the desired user password.
- **Confirm**: Re-enter the user password.
- **Active**: Select enable or disable to activate or de-activate a user account.
- **Password**: Select enable so that users must enter a password to log in.

3 Select the menus that the user will have access to.

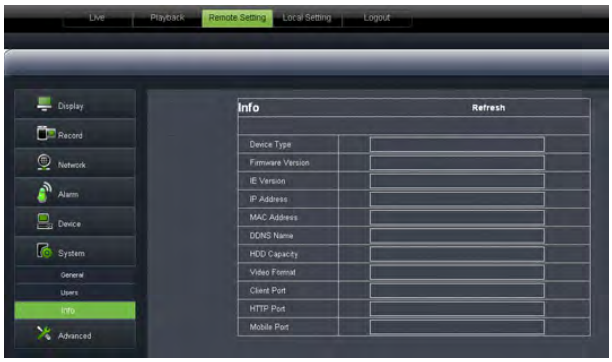


4 Click **Save** to apply your settings.

Viewing System Information

To view system information:

1 Click the **Remote Setting tab→System→ Info**.



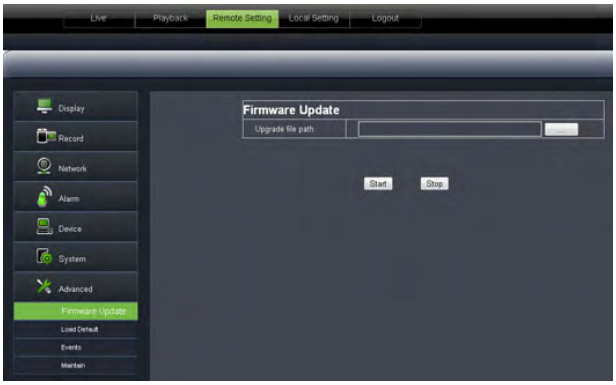
Upgrading System Firmware

To upgrade the system firmware, download the latest firmware from the system's product page at www.lorextechnology.com.

To upgrade the system firmware:

1 Download and extract the file to your computer's desktop.

2 Click the **Remote Setting tab→Advanced→Firmware upgrade.**



3 Beside "Upgrade File Path", click the browse button (...). Locate the firmware, and click Open.

4 Click **Start** to begin the firmware upgrade.

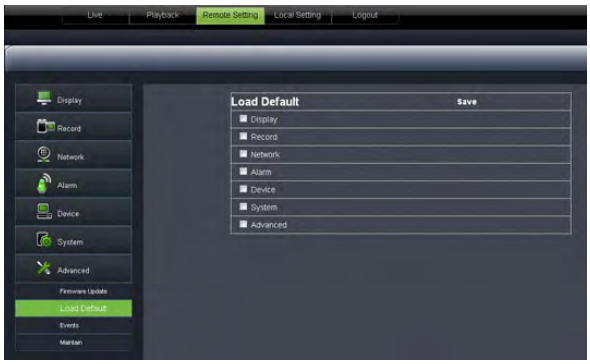
5 Follow the on-screen instructions to complete the firmware upgrade.

NOTE: Your system may have to restart after a firmware upgrade.

Restoring Default Settings

To restore the system's system defaults:

1 Click the **Remote Setting tab→Advanced→Load Default.**



2 Select the menus that you wish to restore to factory defaults.

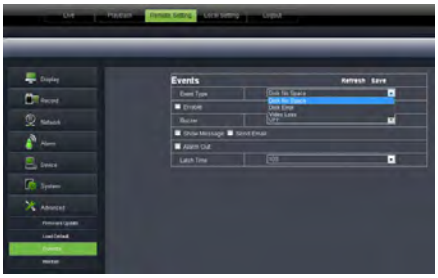
3 Click **Save** to restore system defaults for the selected items.

Configuring Event Settings

The Event Settings tab allows you to configure how the system behaves when a system event occurs (i.e.hard drive error, video loss). This is useful if you want your DVR to notify you if there is a potential system problem.

To configure the system event settings:

1 Click the **Remote Setting tab→Advanced→Events.**



2 Configure the following:

- **Event Type**: Configure the event that triggers the system to send an alert.
- **Enable**: Select enable to activate the system from notifying you if an event occurs.
- **Buzzer**: Select ON/OFF to enable/disable the system buzzer.
- **Show Message**: Select the checkbox to enable the system to display a warning message when an event occurs.
- **Send Email**: Select the checkbox to enable email notifications. Email notification must be enabled.
- **Alarm Out**: Enable or disable the alarm out panel.
- **Latch Time**: Configure the system latch time after an event occurs.

3 Click **Save** to restore system defaults for the selected items.

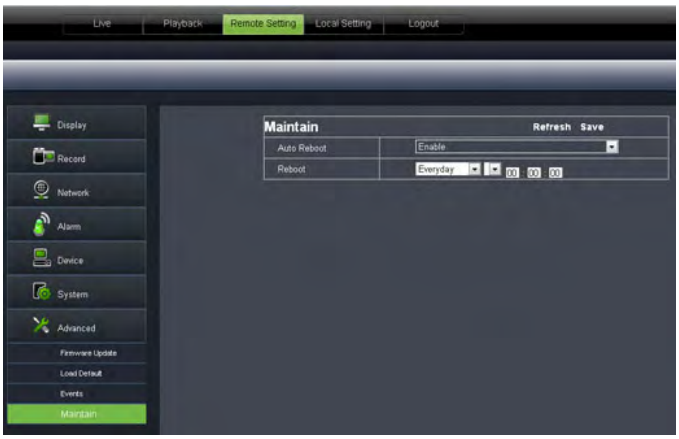
Configuring Auto Maintain

Auto-maintain allows the system to reboot for during a set time or date. This improves system stability.

To configure Auto Maintain:

1 Click the **Remote Setting tab→Advance→Maintain.**

2 Click the Auto Reboot drop-down menu, and select enable to activate the auto-reboot feature. Next, enter the day and time you want the system to restart.



3 Click **Save** to apply your settings.

Changing the save directory

To change the save directory of videos and images:

1 Click the **Local Setting** tab.

2 Click the ( ) button beside the appropriate field to change the file save path.

Lorex Player 11

Lorex Player 11 allows you to view your downloaded video files from your DVR on your computer.

Minimum System Requirements

- Intel Pentium 4 or above
- Microsoft Windows XP/ Vista / 7
- 256 MB Ram
- 16 MB video memory

Prerequisites

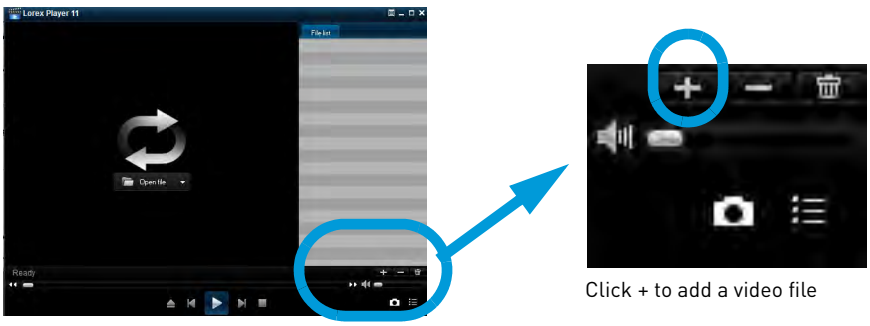
- Back up video files from the DVR to your local hard drive.

To install Lorex Player 11:

1. Insert the software CD that comes included with the system.
2. Locate the Lorex Player 11 software. Follow the on-screen instructions to install Lorex Client 11.

Running Lorex Player 11:

1. Double-click the Lorex Player 11 icon on the desktop.
2. Click the **+** symbol.
3. Click **FILES** to load an individual file. Click **FOLDER** to load a folder with backed up videos.

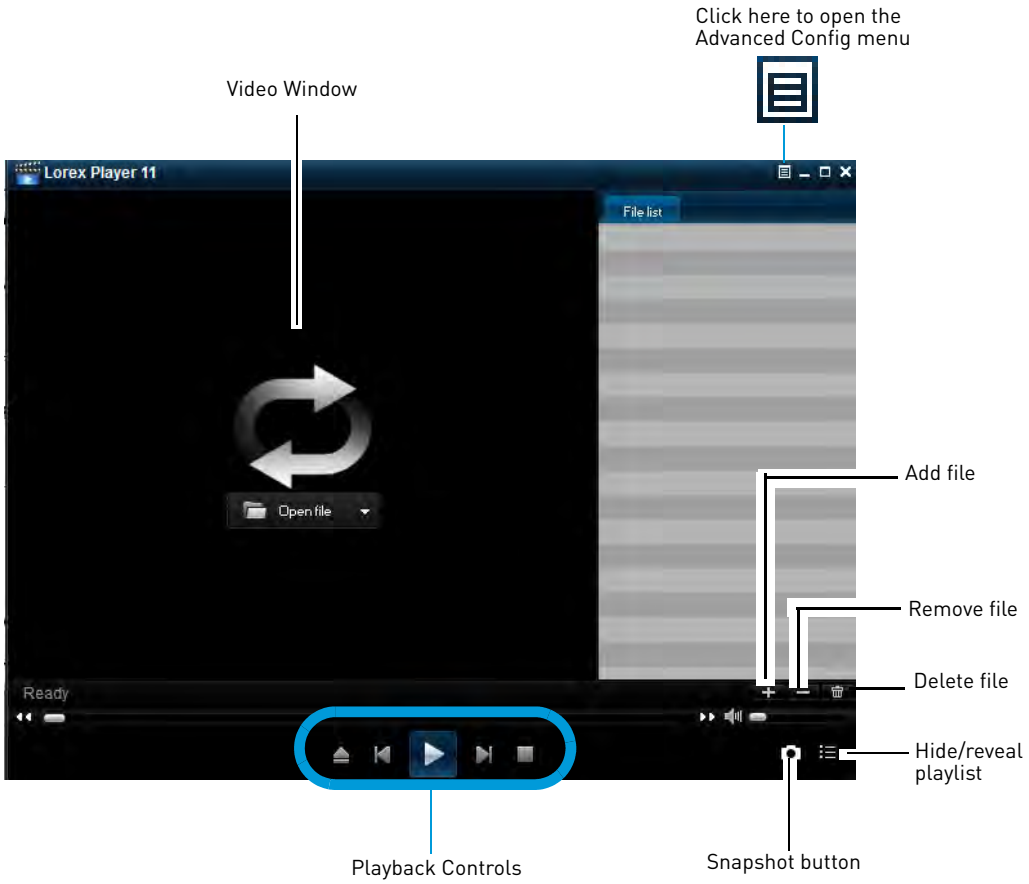


Click + to add a video file

4. Use the playback controls near the bottom of the window to begin playback.

NOTE: The functionality is identical to the remote player. For details, see "Click Play to begin playback." on page 66.

Lorex Client 11 Interface Overview



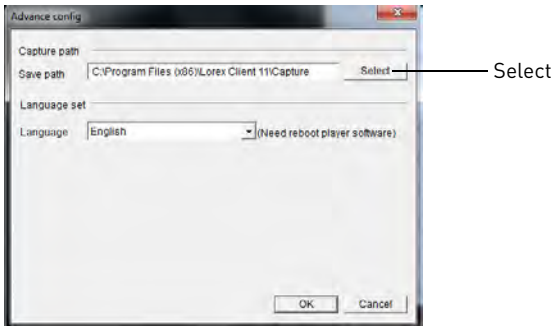
About the Advanced Config menu

The Advanced Config menu allows you to select where the screen captures are stored.

To open the Advanced Config menu:

1 Click the button.

2 Click **Select** to change the snapshot save directory.



Mobile Apps

Mobile applications allow you to connect and view your system remotely using a smartphone.

Prerequisites:

- Port forward port **1025** (default mobile port) in your router
- Create a DDNS account, and enable DDNS in your DVR

Login Name and Password

For mobile access:

- The default user name is: **admin**
- The default password is: **0000**

iPhone

System requirements

- OS version 4.0 and above.

Prerequisites

- An iTunes account (requires valid credit card number).

NOTE: Your credit card will not be billed when downloading the Lorex Mobile Eco App.

Step 1 of 3: Downloading the App

1 In the iTunes store, search for **Lorex Mobile Eco**

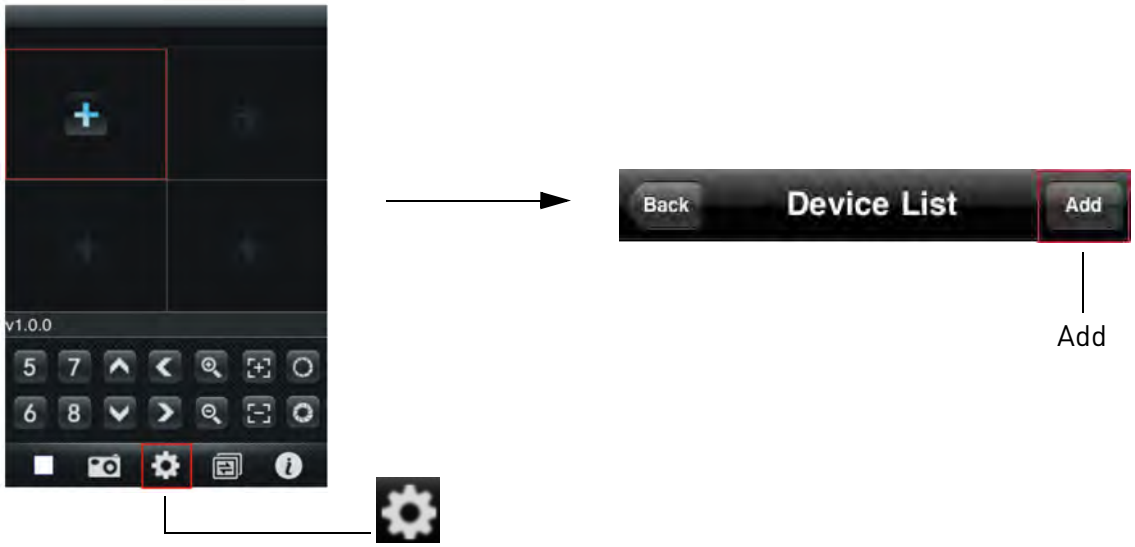
2 Download and install the app on your iPhone.

NOTE: For support on downloading or installing iPhone apps, consult your iPhone user's manual, or www.apple.com for support.

Step 2 of 3: Configuring Lorex Mobile Eco

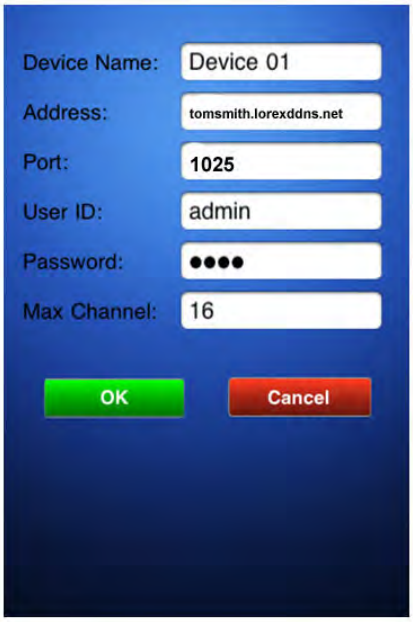
1 From your iPhone, touch the Lorex Mobile Eco icon ( ).

2 Touch to open the Device List menu and then touch **Add**.



3 Enter the following:

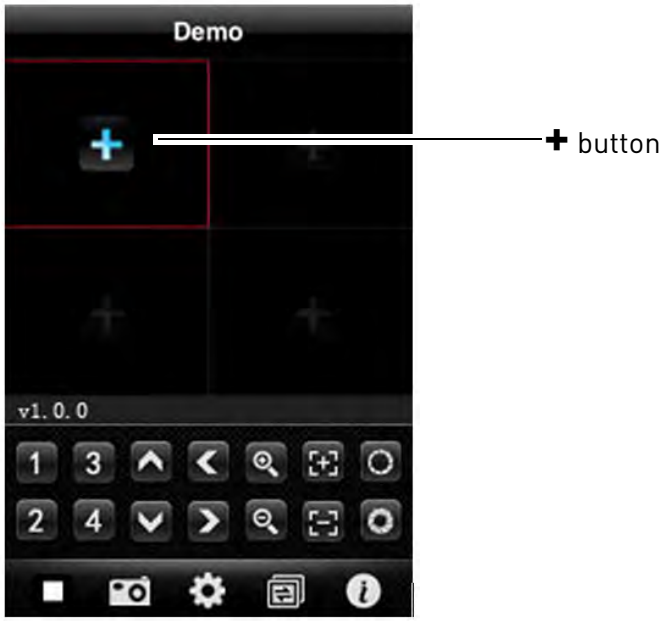
- **Device Name**: Enter the name of your system. This can be any name of your choice.
- **Address**: Enter the local IP of the DVR OR enter the DDNS address of the DVR (i.e tomsmith.lorexddns.net).
- **Port**: Enter the Mobile Port number of the DVR (by default, port **1025**).
- **User ID**: Enter the user ID of the DVR (by default: **admin**).
- **Password**: Enter the DVR's mobile access password (by default: **0000**)
- **Max Channel**: Enter the number of channels of the DVR (4, 8 or 16).



4 Touch the **OK** button and then touch the **Back** button.

Step 3 of 3: Connecting to your DVR

1 In Quad View, touch the plus button **(+)**.



2 Touch the name of your DVR. Select the channel that you want to display in the channel.

- The selected channel appears in the quad screen menu.

Touch the name of your DVR. Select the desired channel. The channel appears in quad view.

TIP: Double-tap the channel to view video in full screen.

3 Repeat steps 1~2 as required for the remaining channels.

Deleting Accounts

- From the Device List, swipe your finger on beside your device name. The Delete button appears. Touch the **Delete** button to remove the device.

Taking Snapshots

You can take a picture of the selected channel. The images save into your Photos directory.

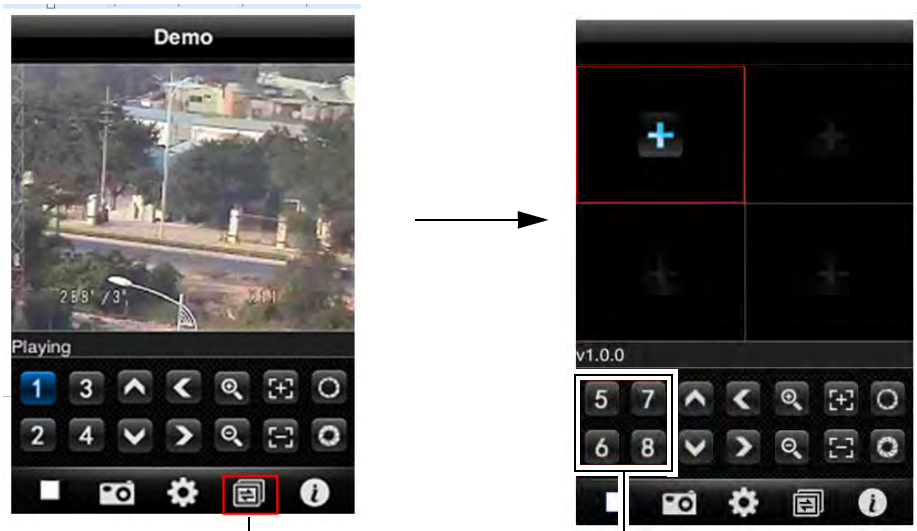
To take images:

- Touch the camera button ( ).

Camera button

Changing channels in Quad View

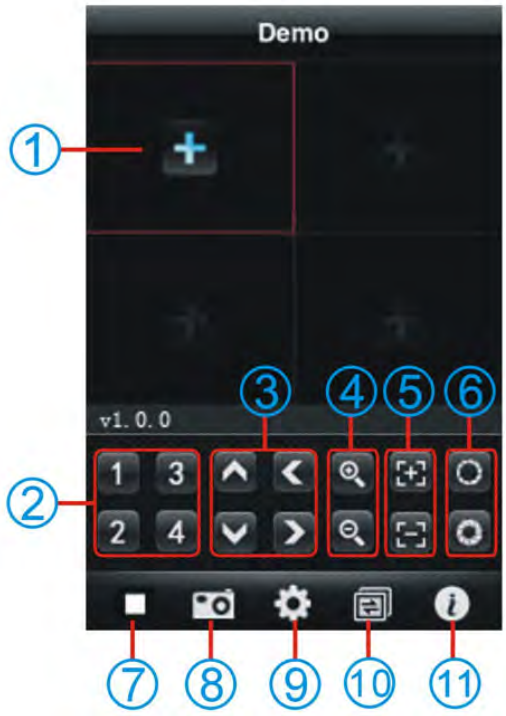
- Touch the button repeatedly to display channel 1~4, 5~8, 9~12, 13~16.



Touch here to change quad view channels

Channel 5~8

Interface Overview



1 **Add Device**: Touch to add a DVR channel.

2 **Channel List**: Touch to view channel in full screen.

3 **Pan & Tilt camera** (PTZ only).

4 **Zoom in/out** (PTZ only).

5 **Focus** (PTZ only).

6 **Iris** (PTZ only).

7 **Disconnect**: Disconnects channel.

8 **Snapshot**: Takes an image of the channel.

9 **Setup:** Touch to enter the setup menu.

10 **Channel button**: Touch to change the quad channel numbers (Ch 1~4, 5~8, 9~16).

11 **System info**: Display system information.

BlackBerry

System requirements

- 3G models only (model 9000 and up)
- 9800 Touch Screen models only, running Blackberry 6 OS (6.0.0.448 and up)

Step 1 of 2: Downloading the App

1 Go to www.lorextechnology.com, and go to the Eco's product page.

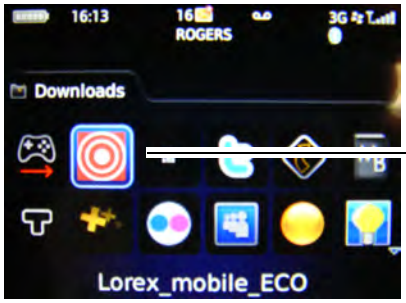
2 Under the Downloads tab, download the appropriate app for the BlackBerry.

3 Download and install the app on your Blackberry.

NOTE: For support on downloading or installing BlackBerry apps, consult your BlackBerry's user's manual, or www.blackberry.com for support.

Step 2 of 2: Configuring Lorex Mobile Eco

1 Locate the app in your BlackBerry and open Lorex Mobile.



Lorex Mobile Eco

2 In the Setting window, enter the following:

- **Title**: The name of your system. This can be any name of your choice.
- **Address**: Enter the local IP of the DVR OR enter the DDNS address of the DVR (i.e tomsmith.lorexddns.net).
- **Port**: Enter the Mobile Port number of the DVR (by default, port **1025**).
- **No. of CHs:** Select the number of channels of your DVR.
- **User ID**: Enter the user ID of the DVR (by default: **admin**).
- **Password**: Enter the DVR's mobile access password (by default: **0000**):

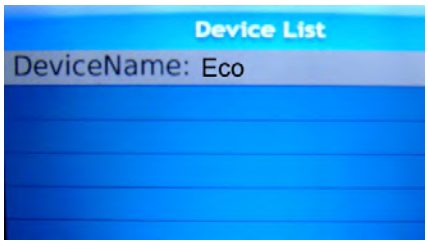
Select number of channels

Select 3G or WiFi

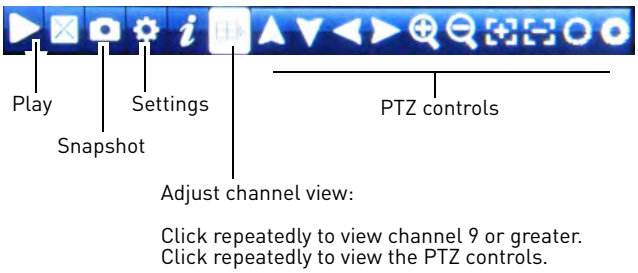
3 Click the **Login** button to log in to the DVR.

Connecting to the DVR through the Device List

1 In the Device List, select and open the name of the account you created.



Controls



Windows Mobile

System requirements

- Version 6.0 and above, touch screen models only

Step 1 of 2: Downloading the App

1 Go to www.lorextechnology.com, and go to the Eco's product page.

2 Under the Downloads tab, download the appropriate app for Windows Mobile devices.

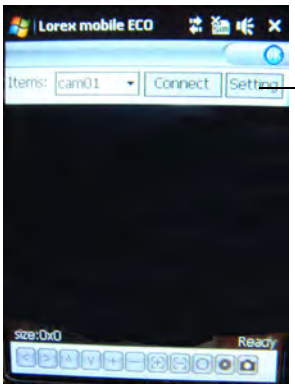
3 Download and install the app on your Windows Mobile phone.

For support on downloading or installing Windows Mobile apps, consult your Windows Mobile's user's manual, or www.microsoft.com/windowsphone for support.

Step 2 of 2: Configuring and Connecting to Lorex Mobile

1 Open the Lorex Mobile app on your phone.

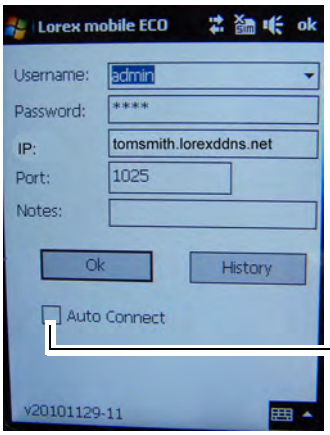
2 Click the **Setting** button.



Setting

3 Configure the following:

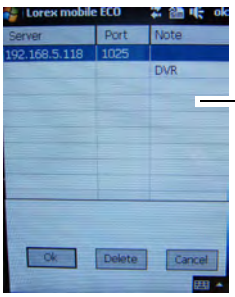
- **User Name**: Enter the user name of the DVR (default: **admin**).
- **Password**: Enter the DVR password (by default: **0000**)
- **IP**: Enter the local IP of the DVR OR enter the DDNS address of the DVR (i.e tomsmith.lorexddns.net).
- **Port**: Enter the DVR's Mobile Port number (by default, port **1025**).



Auto Connect check box

4 Select the **Auto Connect** checkbox and then click **Ok**.

5 From the Server window, select the DVR account you created. Click **OK** to connect to the DVR.



Select the name of your DVR

Android

Use the **Lorex Mobile Eco** application to connect to your DVR on an Android smartphone or tablet.

NOTE: The instructions below may differ depending on the model of your Android device.

System requirements

- Android v. 1.5 and above.

NOTE: For the latest device compatibility list, visit www.lorextechnology.com

Step 1 of 2: Downloading the App

NOTE: For support on downloading or installing Android apps, consult your Android device's user's manual or the manufacturer's support site.

1 Touch the Google Play Store icon ( ) in your Applications list.

2 Press the search button ( ).

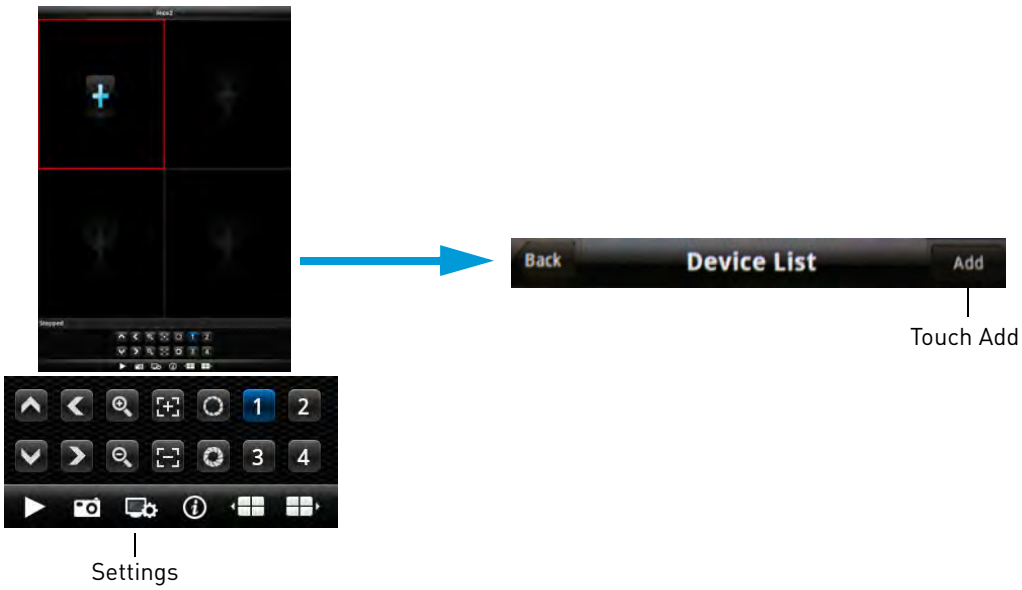
3 Enter **Lorex Mobile Eco** and then press the search button again ( ).

4 Touch **Lorex Mobile Eco**. Then touch **Install** to download and install the app. Wait for the app to install.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

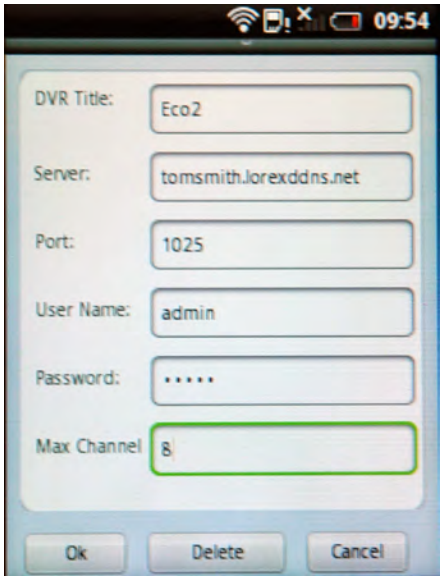
1 Open the **Lorex Mobile Eco** ( ) app from the applications list.

2 Touch the Settings button ( ) to open the Device List and touch **Add**.



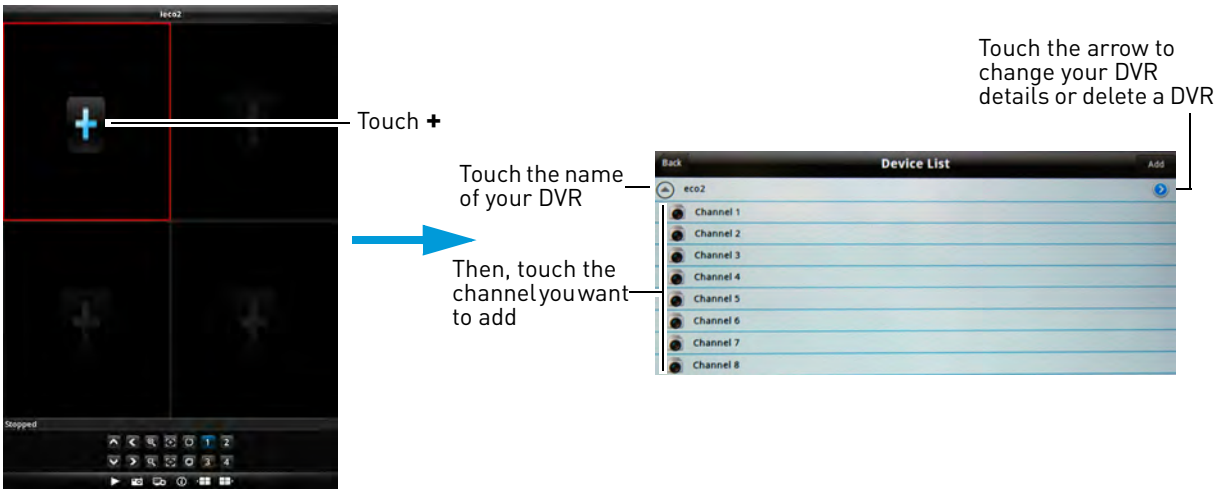
3 Configure the following:

- **DVR Title**: Enter a name for your DVR of your choice.
- **Server**: Enter the DDNS address of the DVR (e.g. *tomsmith.lorexddns.net*).
- **Port**: Enter the DVR's Mobile Port number (default: **1025**).
- **User Name**: Enter the mobile access ID (default: **admin**).
- **Password**: Enter the DVR password (by default: **0000**).
- **Max Channel**: Enter the number of total channels your DVR can support (e.g. **4**, **8**, or **16**).

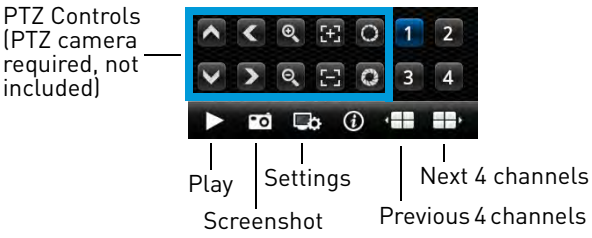


4 Touch **OK**. Touch the **Back** button.

5 In Quad View, touch **+**. Touch the name of your DVR and select the channel you would like to display in the space in Quad view.



Viewing Controls



Symbian OS

System requirements

- 3rd and 5th generation models

Step 1 of 2: Downloading the App

1 Go to www.lorextechnology.com, and go to the Eco's product page.

2 Under the Downloads tab, download the appropriate app for Symbian devices.

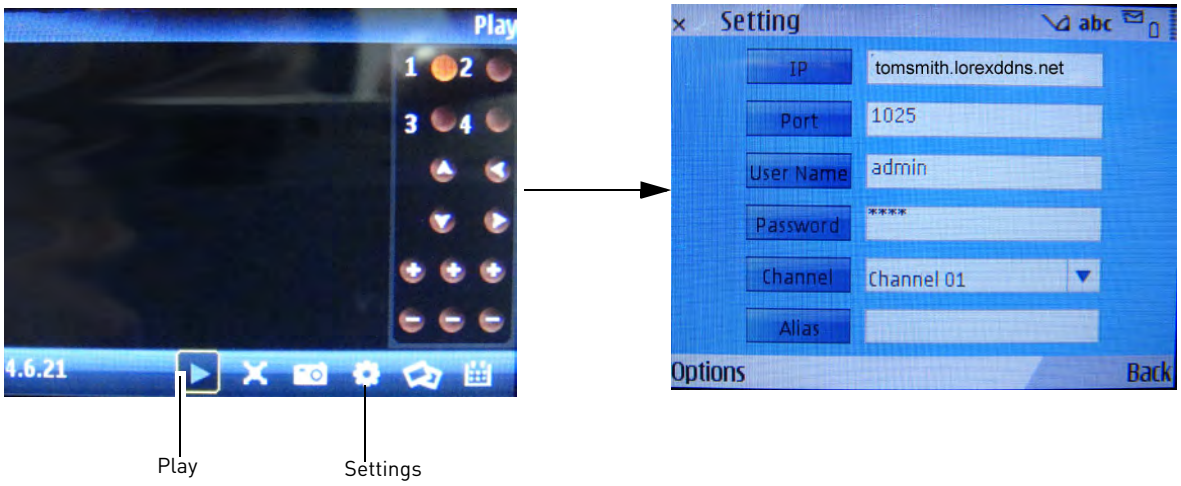
3 Download and install the app on your Symbian-based phone.

- For support on downloading or installing Symbian OS apps, consult your Symbian device's user's manual or the manufacturer's support site.

Step 2 of 2: Configuring and Connecting to Lorex Mobile Eco

1 Open the Lorex Mobile Eco app on your phone.

2 Click the Settings button ( ).



3 Configure the following:

- **IP**:Enter the local IP of the DVR OR enter the DDNS address of the DVR (i.e tomsmith.lorexddns.net).
- **Port**:Enter the DVR's Mobile Port number (by default, port **1025**).
- **User Name**: Enter the DVR's user name (by default: **admin**)
- **Password**:Enter the DVR password (by default: **0000**)
- **Alias**: Enter a DVR name of your choice

4 Save your settings. From the main viewing window, press the play button to connect to the DVR.

Appendix A: System Specifications

DVR:

SYSTEM	
Operating System	Linux (embedded)
Pentaplex	Simultaneous View, Record, Playback, Backup & Remote Monitoring
Number of Channels	**4/8/16** Channel
Inputs/Outputs	
Video IN	4/8/16 x 1Vpp, CVBS, 75ohms, BNC/DIN
Video OUT	1 x HDMI, 1 x VGA, 2 x BNC
Audio IN	4 Line in(RCA), ADPCM (4, 8, 16ch)
Audio OUT	2 line out(RCA), ADPCM (4, 8, 16ch)
USB Port	2 at the back
Alarm IN	4 IN (available in 16 ch only)
Alarm OUT	1 OUT (available in 16 ch only)
PTZ control	RS-485 Pelco D & P Protocol
Display	
Live Display	**4 ch:** 1,4 **8 ch:** 1, 4, 8 **16 ch:** 1, 4, 8, 16
Live Display Speed	120 (4 ch)/ 240 (8 ch)/ 480 (16 ch) NTSC 100 (4 ch)/ 200 (8 ch)/ 400 (16 ch) PAL
OSD	ON/OFF
System Navigation	USB Mouse, IR Remote Controller, Front Panel
Motion Area Setting	Adjustable grid (10 x15) NTSC / PAL (12 x15)
Sensitivity levels	8
Firmware Upgrade	Via USB device
User Authority	By user group
Time Synchronization	Auto time sync by NTP server
RECORDING	
Video Compression	H.264
Audio Compression	ADPCM
Recording Resolution	NTSC: 360x240 (CIF), 720x240 (HD1), 720x480 (D1) (4 & 8 ch) 360x240 (CIF) (16ch) PAL: 360x288 (CIF), 720x288 (HD1), 720x576 (D1) (4 & 8 ch) 360x288 (CIF) (16ch)
Recording Speed:	**4 ch:** 120/100 (NTSC/PAL) @ CIF, 60/50(NTSC/PAL) @ HD1, 30/25 (NTSC/PAL) @ D1 **8 ch:** 240/200 (NTSC/PAL) @ CIF, 120/100(NTSC/PAL) @ HDI, 60/50 (NTSC/PAL) @ D1 **16 ch:** 480/400 (NTSC/PAL) @ CIF
Recording Resolution Setting	Per camera for different resolutions - CIF/2CIF/D1 (4/8 ch only) CIF (16ch only)
Recording Quality Control	3 levels
Image Size	768-1536 Kbyte (D1), 512-768 Kbyte (HD1) , 384-512 Kbyte (CIF)
Recording Schedule	By hour, by day, by recording mode, by alarm, by ch
Pre Recording	Max. 10 Secs
Post Recording	Max. 5 Minutes
Reliability	Watch-Dog, Auto-recovery after power failure
Covert Video	Yes

PLAYBACK	
Playback Channel	1,4 (4 ch), 1,4,8 (8 ch), 1,4,8,16 (16 ch)
Playback Speed	Variable Max 16x
Playback Players	Backup Player
Search	By time & event
Log Search	Up to 10,000 lines for user login/out, configuration changes, remote access, connects/disconnects
Audio Play	Yes
STORAGE & ARCHIVE	
Storage	**4 & 8 ch:** Up to 1 HDD's (SATA) **16 ch:** Up to 2 HDD's (SATA)
Maximum Capacity	**4 & 8 ch:** Up to 2TB **16 ch:** Up to 2 x 2 TB
Backup Media	USB Flash Drive & HDD
Backup File Format	H.264 file (AVI generator included)
CONNECTIVITY	
Easy Connect	Lorex Auto Port Forward Wizard
Supported Operating Systems	**Windows**™ XP, Vista, 7 **Mac** OSX Snow Leopard 10.6 or above
Browsers	Internet Explorer and Safari
Email notification	Text with snapshot
Instant Smart Phone Compatibility†	Instant Smart Phone Compatibility on iPhone™, BlackBerry (supported model numbers: 9000, 9700), Android (version 1.5 & above), Window Mobile (6.0, 6.5), Symbian 3rd & 5th generation phones.
DDNS	Free Lorex DDNS
System Configuration	Full setup configuration over network
Ports	Programmable by User
Network Protocol	LAN, DHCP, Dynamic IP, DDNS
Network Interface	10/100-Base-TX, RJ-45
Network Speed Control	48Kb ~ 8MB/sec.
GENERAL	
Power Consumption	**4 & 8 ch:** Approx. 10 watts **16 ch:** Approx. 15 watts
Supply Voltage	**4 & 8 ch:** 100VAC-240VAC, 12VDC , 3A, 50/60Hz **16 ch:** 100VAC-240VAC, 12VDC , 5A, 50/60Hz
Unit Dimensions (W x D x H)	**4 & 8 ch:**11.81"/300mm x 8.66"/220mm x 1.97"/50mm **16 ch:**14.96" /380mm x13.39"/340mm x 1.97"/50mm
Unit Weight (KGs)	**4 & 8 ch:** 1.7 kg/3.75 Lbs **16 ch:** 3 kg/6.6 Lbs
Operating temperature	32° ~ 104° F / 0° ~ 40° C
Humidity	10 ~ 90% NC

As our products are subject to continuous improvement, Lorex Technology Inc. and its subsidiaries reserve the right to modify product design, specifications, and prices without notice and without incurring any obligation. *E&OE*

Appendix B: Networking Checklist

Use this checklist to confirm you have completed all the steps of the Network Setup.

I have the following:

- High-Speed Internet
- Router
- Ethernet cable (included with the system)
- Computer with Internet Explorer 6 or later

I have turned off the system and performed the following:

- Connected the Ethernet cable to the LAN (RJ45) port on the rear panel of the system
- Connected the other end of the Ethernet cable to my router

NOTE: Network Setup will not work if you do not have a router.

I have found my System Information:

- Press the **PTZ** button on the front panel of your system

My IP Address is: _____

My MAC Address is: _____

I have enabled Port Forwarding on my router:

- **Port 80**
- **Port 9000**
- **Port 1025**

NOTE: For added security, we strongly recommend changing HTTP port 80 on the system to *any desired port*—the port must not blocked by your Internet service provider (ISP).

NOTE: Each router is different, so port forwarding settings vary by model. If your router is not listed, please refer to your router's manual or contact your router's manufacturer for assistance.

I have created a DDNS account for remote access to my system:

Go to www.lorexddns.net and click on **Step 1**. See "Step 2 of 4: Create a DDNS Account" on page 53. Record your information below:

Domain name/URL Request: _

DDNS User Name: _

DDNS Device password: _

I have configured my system to connect to the DDNS server:

ATTENTION: You *MUST* enter your DDNS information *LOCALLY* before attempting remote access.

To enable DDNS on your system:

1 Right-click in the main viewing window, and then click **Main Menu→Network**.

2 Click **DDNS Setup.**

3 In the DDNS drop-down menu, select **Enable.**

4 Enter the following into the DDNS Setup menu:

- **Host Name**: Enter the Domain Name/URL Request that was e-mailed to you after DDNS registration.
- **User Name**: Enter your DDNS User Name that was e-mailed to you after DDNS registration.
- **Password**: Enter your DDNS Device Password that was e-mailed to you after DDNS registration.

5 Click **Apply** to save your settings.

6 Click **CLOSE** in the confirmation window.

NOTE: Please allow 10~15 minutes for the DDNS servers to update with your new DDNS address. This is normal for the DDNS system.

I can access my system from a remote PC:

To access your system remotely:

1 Open Internet Explorer and enter your **DDNS address** from the confirmation email. For example, *http://tomsmith.lorexddns.net:80*

2 Log in using your ADMIN **password**. If you have not enabled passwords on the system, leave the password field **blank**.

NOTE: By default, the login name is **admin**, the password field is left blank.

Appendix C: How do I find my IP & MAC address?

The IP and MAC address of your system are necessary for DDNS setup. DDNS allows you to view and control your system from a remote location.

NOTE: Make sure you have connected the DVR to your local or wide area network via the LAN port on the rear panel of the system.

To find your IP address and MAC address:

1 Press the **PTZ** button on the front panel of the system.

2 Press the **Exit** button to close the menu.

Finding Your External IP Address

If you wish to find your external IP address, you can use a third-party website such as www.showmyip.com. Your external IP address can also be found within your Router settings. Refer to your router user guide for further details.

Appendix D: What is Port Forwarding?

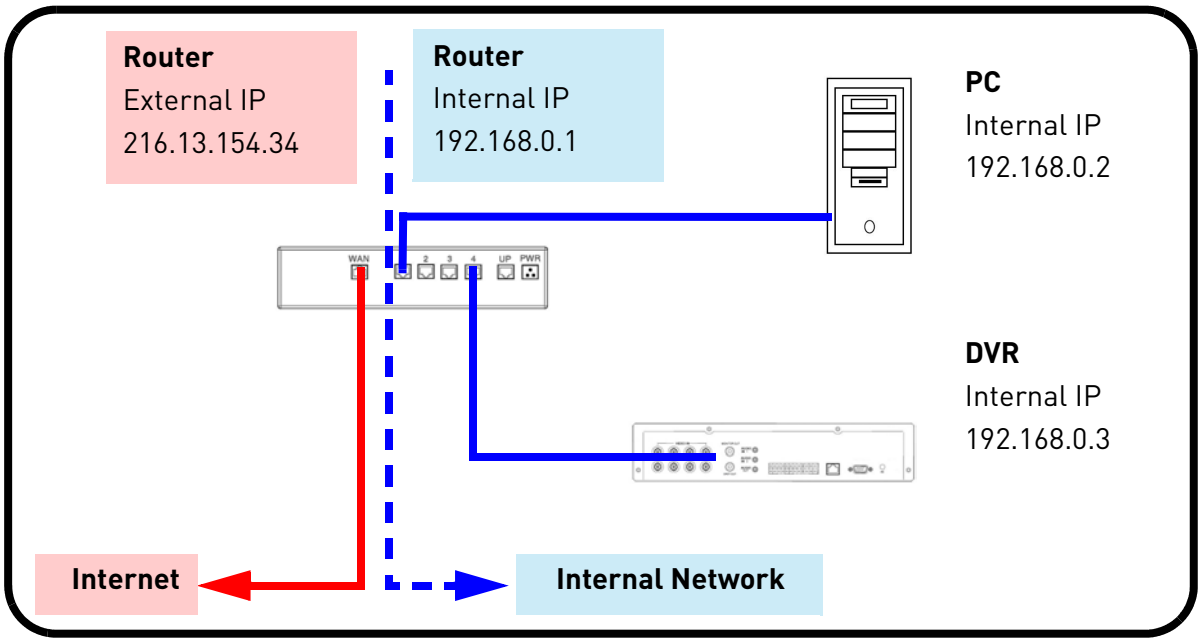
You need to enable port forwarding on your router to allow for external communications with your system for the following port:

- **80** (HTTP port)
- **9000** (Client Port)
- **1025** (Mobile Connectivity Port)

NOTE: For added security, we strongly recommend changing HTTP port 80 on the system to *any desired port*—the port must not blocked by your Internet service provider (ISP).

Computers, DVRs, and other devices inside your network can only communicate directly with each other within the internal network. Computers and systems outside your network cannot directly communicate with these devices. When a system on the internal network needs to send or receive information from a system outside the network (i.e. from the Internet), the information is sent to the router.

NETWORK EXAMPLE



When a computer on the Internet needs to send data to your internal network, it sends this data to the external IP address of the router. The router then needs to decide where this data is to be sent to. This is where setting up Port Forwarding becomes important.

Port Forwarding tells the router which device on the internal network to send the data to. When you set up port forwarding on your router, it takes the data from the "**external IP address:port number"** and sends that data to an "**internal IP address:port number"** (i.e Router External IP 216.13.154.34 to DVR Internal IP **192.168.0.3:80**).

Appendix E: Internet Setup Wizard (PC only)

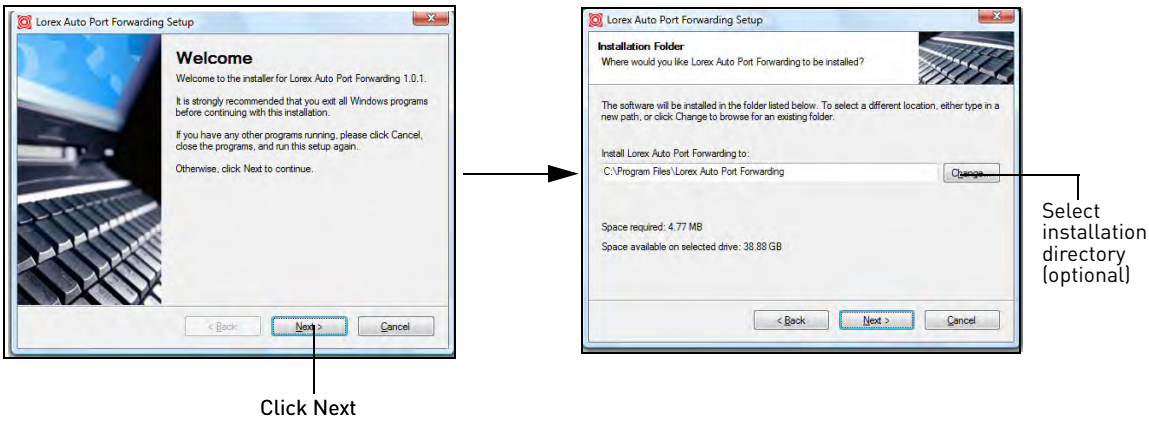
The Lorex Auto Port Forwarding Wizard is an exclusive software that easily automates router port forwarding. Before setting up a DDNS account, it is recommended to run the Auto Port Forwarding Wizard to port forward the required ports.

Installation

To install the Lorex Auto Port Forwarding Wizard:

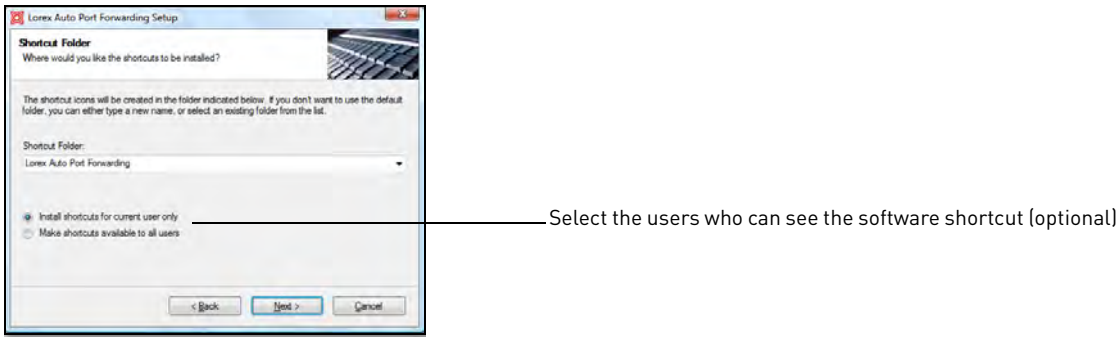
1 Insert the system's software CD, and follow the instructions to launch the Lorex Auto Port Forwarding Wizard software.
- The installation window opens.

2 Click **Next** to continue.

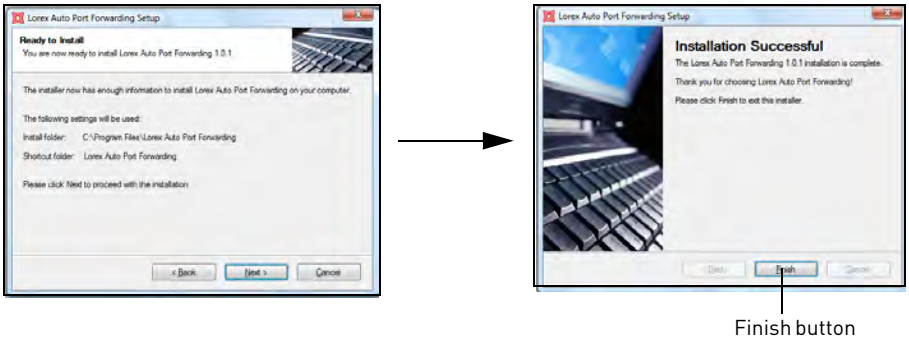


3 Click the **Change** button to change the default installation directory (optional). Click the **Next** button to continue.

4 Select the users who can see the Auto Port Forwarding shortcut (Optional). Click the **Next** button to continue.



5 Click the **Next** button and then click **Finish** to complete the software installation.



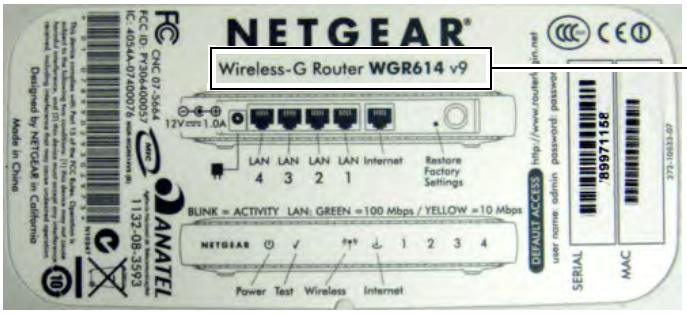
6 Double-click the Lorex Auto Port Forwarding shortcut (

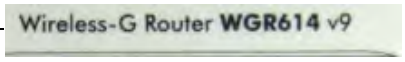
)from your desktop to start the program.

Obtaining Your Router Model Number and Version

On most routers, the model and version number can be found underneath the router, printed on a sticker.

Example





- WGR614 refers to the model number
- v9 refers to the version number

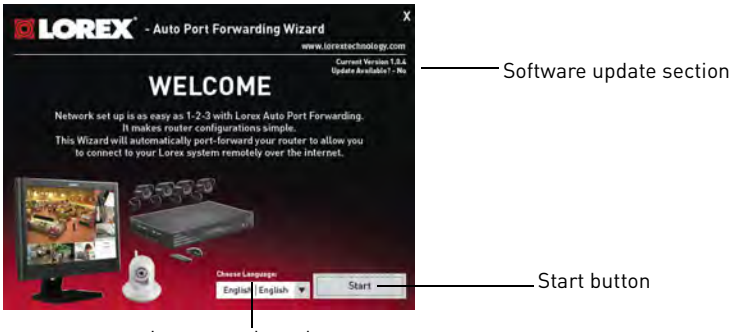
Configuration

You must have the following before you configure the software:

1. Your router's model number and version number
2. Your router's user name and password
3. Your Lorex device's IP address
4. Your Lorex device's port numbers that require port forwarding

Initial Startup: Select language

1 Click the Language drop-down menu and select a language (English, French, Spanish). Click the **Start** button to continue.



A software update includes an updated list of routers compatible with the Auto Port forwarding Wizard.

2 If software updates are available, click the **Download Now** button in the top-right corner.

- Run the update file and install the latest version of the software.

Step 1: Populate the router database

The Auto Port Forwarding Wizard automatically populates a list of current routers, and detects the number of connected routers.

- Click the **Next** button after the software detects your router configuration.

If more than one router is detected, you may need to contact your ISP (Internet Service Provider) to port forward.

For details on configuring multiple routers, see "Configuring multiple routers" on page 104.

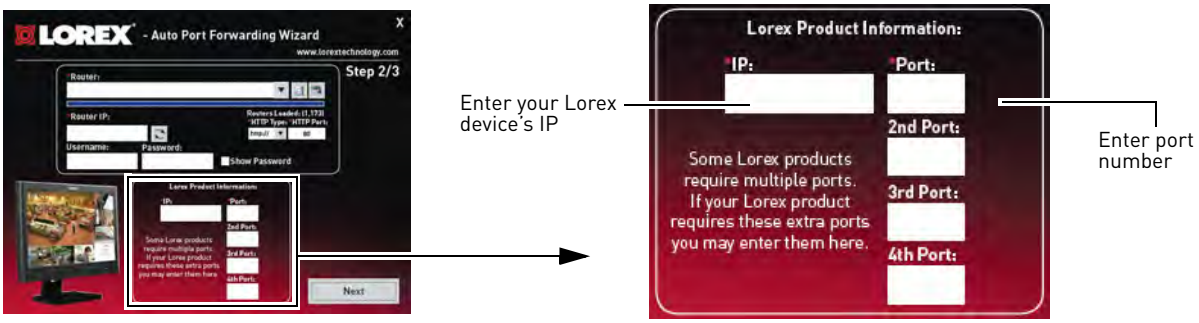
Step 2: Enter your router settings

1 Under the Router drop-down list, select the model of your router.
OR
• Click the **Search** button ( ) to enter the name of your router model.

NOTE: Click the **Auto Detect** button ( )if you have a Linksys or Netgear router (works with most Linksys or Netgear models).

2 Under Router IP, click the **Detect Router IP** button ( ).
• The router's IP populates in the blank field. Click **OK** to exit the prompt.

3 Under Username and Password, enter ***the router's*** username and password.
• Optional: Under HTTP Type (default http://) and HTTP Port (default, 80), you may have to change the values depending on your router model. Consult your router manual for details.



4 Under IP, enter the IP address of your Lorex device.
• To find your system IP address press the **PTZ** button on the front panel of the system.

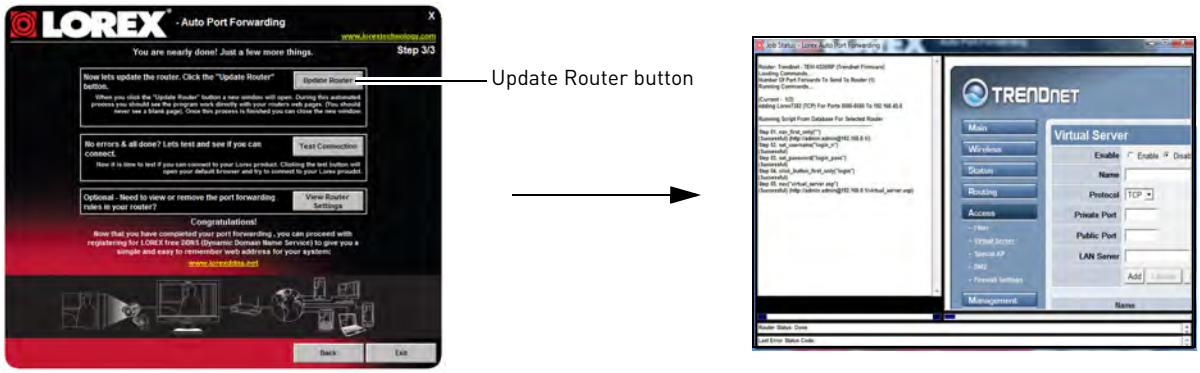
5 Under **Port**, enter the HTTP Port (**80**). Under **2nd Port**, enter the Client port (**9000**). Under **3rd port**, enter the Mobile Port (**1025**).

6 Click **Next** to continue.

Step 3: Update the router settings

1 Click the **Update Router** button.

- You will see your router window open. The Auto Port Forwarding Wizard automatically populates your router with the relevant information. This will take a few moments.



2 Close the update window when the update finishes.

Step 4: Test your connection

1 Click the **Test Your Connection** button.

- Your system's default browser opens and connects to your **Lorex device**.

NOTE: Ensure that Internet Explorer is your system's default internet browser.

NOTE: A window opens that prompts you to enter in your **DVR's** user name and password (do not enter your DDNS log in information).

NOTE: ActiveX warnings may appear. Accept all ActiveX installation warnings to connect to your system.

Configuring multiple routers

Your network may have two or more connected routers. During the initial launch of the auto port forwarding wizard, the program scans the network to detect the number of connected routers.

To check for multiple routers:

1 Click the **Detect Multiple Routers** button ( ).

- A list of connected router populates in the window.

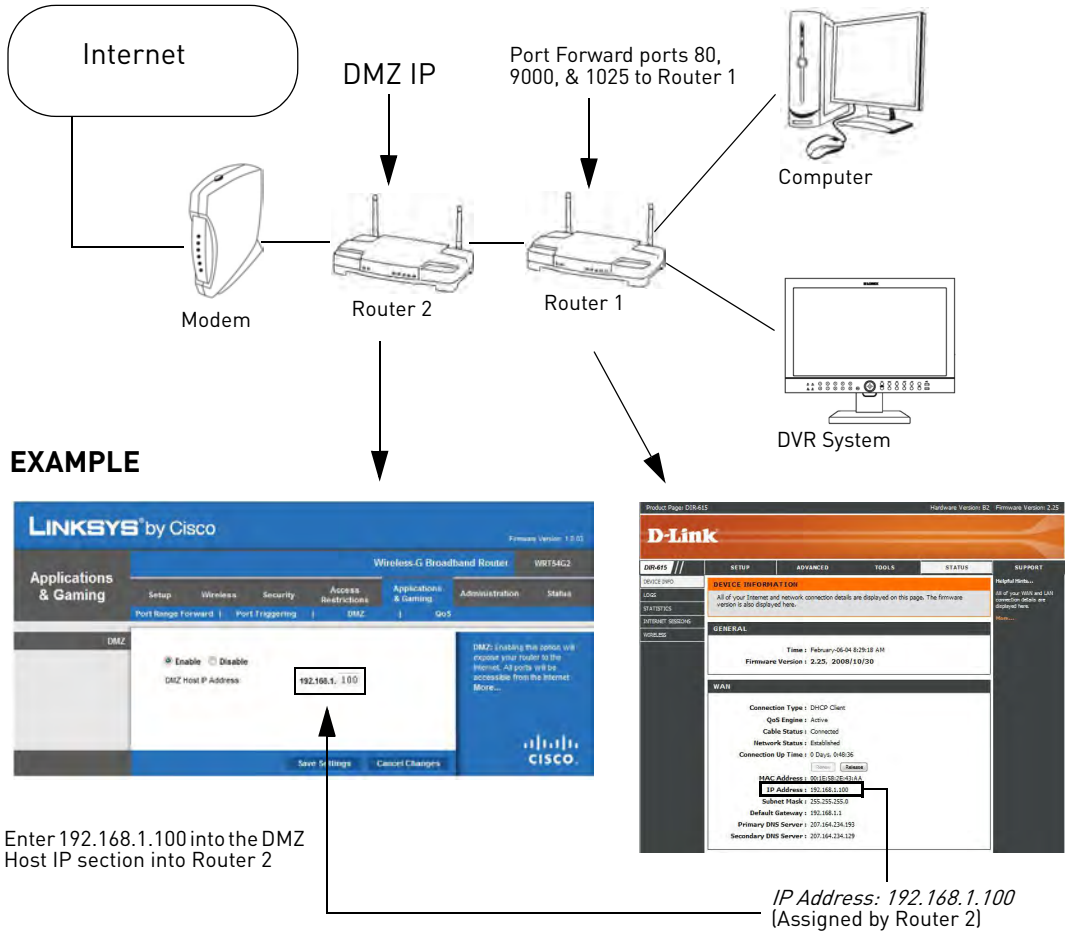
- The "Possible 1st Router" refers to the router directly connected to your system. This is the router that requires the port forward information.
- The "Possible 2nd Router" refers to the router immediate to the internet connection. This is the router that requires you to configure a DMZ host connection.

Scenario A: Router/Modem combination + Router

- You may have a router/modem combination, with a second router in your network.

Scenario B: Multiple Routers

- You may have two routers in your network.



In both scenarios, the router that is immediate to the internet connection (Router 2 in illustration) must act as a "bridge" to another router (Router 1 in illustration). The Auto Port Forwarding Wizard must connect to Router 1.

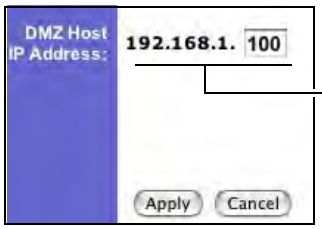
A proper DMZ configuration in Router 2 allows all incoming traffic going through Router 2 to automatically pass to Router 1. Router 2 acts as a "dummy" router and passes all the incoming data onto Router 1. Router 1 is the router that needs the port forwarding information.

Configuring a DMZ host connection

- Connect to "Router 1" on your network (referred to as "Possible 1st Router" in the Auto Port Forwarding Wizard). Obtain the IP address of Router 1. Usually this can be found in the "Status" section of your router menu. The IP should begin with "192.168...."This IP address is your DMZ IP.
- Enter the IP address obtained from Router 1 into the DMZ section of Router 2.
- Once you have configured Router 2 with a DMZ connection, run the Auto Port Forwarding Wizard to begin auto port forwarding to Router 1.
- Consult your router's owner's manual for details on configuring DMZ settings.

Example

DMZ stands for Demilitarized Zone. Enabling a DMZ IP on your router enables one of the routers to pass information onto the second router.

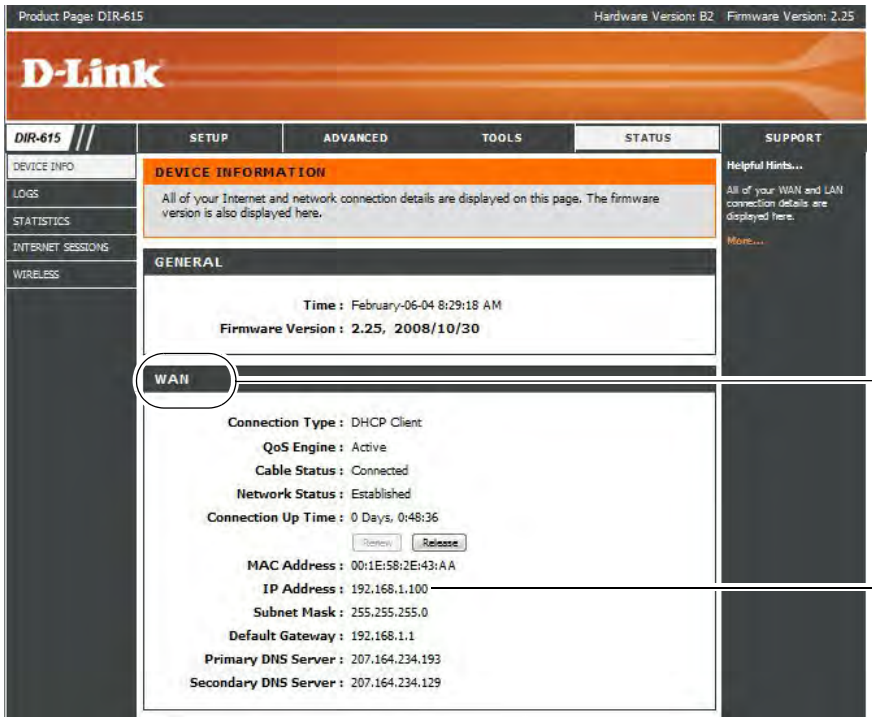


DMZ IP address assigned by a secondary router

Locating your Router IP - The Status Page

The "Status Page" of a router normally includes the router's vital information such as the IP address.

EXAMPLE



The IP information is normally under a header called "WAN" or "Internet Port". Each router has different terminology.

Router IP assigned by the main router. Enter this IP into the DMZ section of the primary router.

Appendix F: Assigning A Static IP To Your DVR

When connecting to your DVR through a local area network (LAN), you have the option of connecting to your system by entering the local IP of the DVR in a web browser. The local IP of your DVR is like your home's address. If someone wants to visit you, they need to know your home address. Similarly, the local IP of your DVR is your DVR's address.

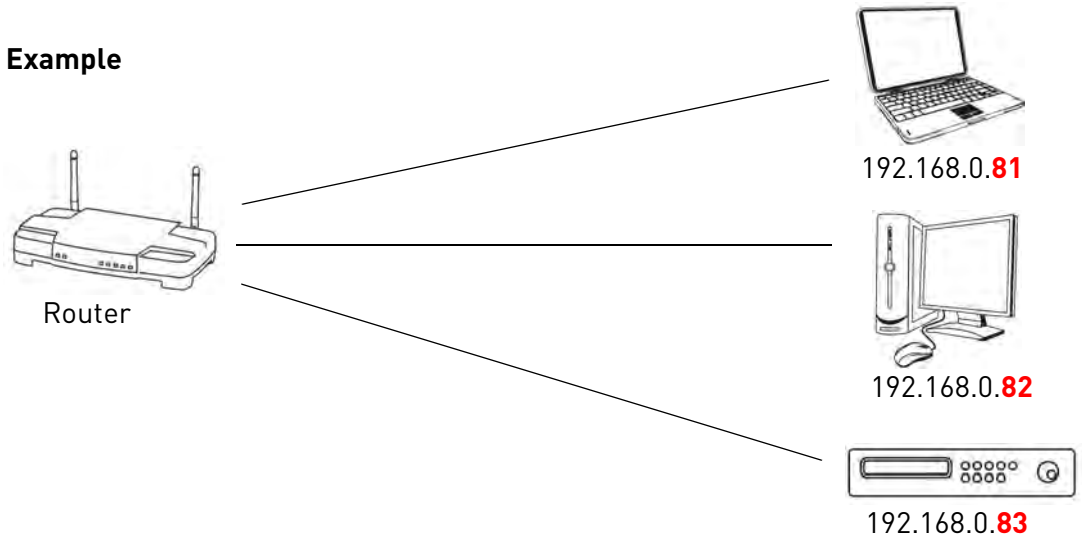
The problem arises when the local IP address of the DVR changes. Imagine moving every three months—nobody would ever be able to find you. To solve this problem, we can assign a fixed IP address—also known as a static IP address—so that the local IP of your DVR will never change.

What's the difference between DHCP and Static IPs?

DHCP

DHCP (Dynamic Host Configuration Protocol) allows your router to automatically assign an IP address to devices that are connected to it. DHCP is a convenient method for connected devices on your router to have an IP address immediately. This allows devices connected to your router to work right away on the network.

For example, your router assigns an IP address to your laptop, your desktop, and your DVR.



Each time the router restarts (due to power failure etc.), there is no guarantee that the router will assign the same IP address to your laptop, desktop or your DVR. The router may assign a new IP address to all of the devices connected to it. This can be a problem if you want to connect to your DVR locally, since the IP address of the DVR has changed.

Static IPs

Setting a static IP on the router tells the router to reserve an IP address to a particular device. The static IP number is saved onto the router, and remains saved even if the router is powered off. Likewise, a static IP address must also be specified in your DVR so that even if your DVR turns off, the IP address of the DVR remains the same. The static IP address must be assigned in the router and DVR. The end result is that you can power on and off the router and DVR, and the router will always assign the same IP address to the DVR.

Setting up a static IP

Creating a static IP must be done on both the router and DVR.

> **NOTE:** These are guidelines on how to create a static IP. Refer to the DVR & Router's owner's manual for details.

To create a static IP on the DVR:

1. Disable DHCP on the DVR.
2. Assign the designated local IP address of the DVR.

To create a static IP on the router:

1. Write down the MAC address of your DVR.
2. In the "DHCP Reservation List", enter the DVR's MAC address, and the desired IP that you wish to reserve.

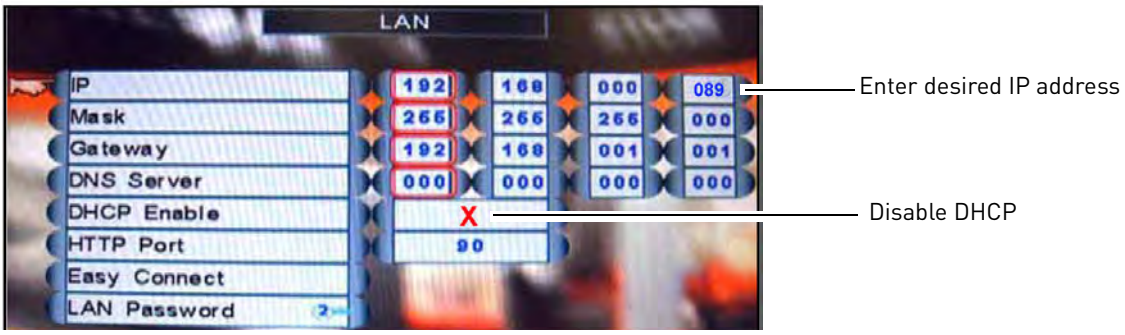
> **NOTE:** The terminology varies between routers. "DHCP Reservation List" is an example only. Consult your router's user's manual for details.

Scenario Example

> **NOTE:** The following scenario example is based on the Lorex Edge series (LH300 series) DVR, and the Trendnet TEW-652BRP router. The instructions below are for reference only.

Step 1 of 2: Enter the desired static IP address in the DVR

1. Open the LAN menu (Main Menu →LAN).
2. Beside **IP**, Enter the desired IP address. This IP address must be in the range specified by your router.
3. Beside **DHCP Enable**, Disable DHCP. Right-click to save your settings.



About IP Ranges

It is recommended to set the static IP address below the scope of your router. For example, if the router assigns an address ending between 100-254, choose an address ending between 2-99.

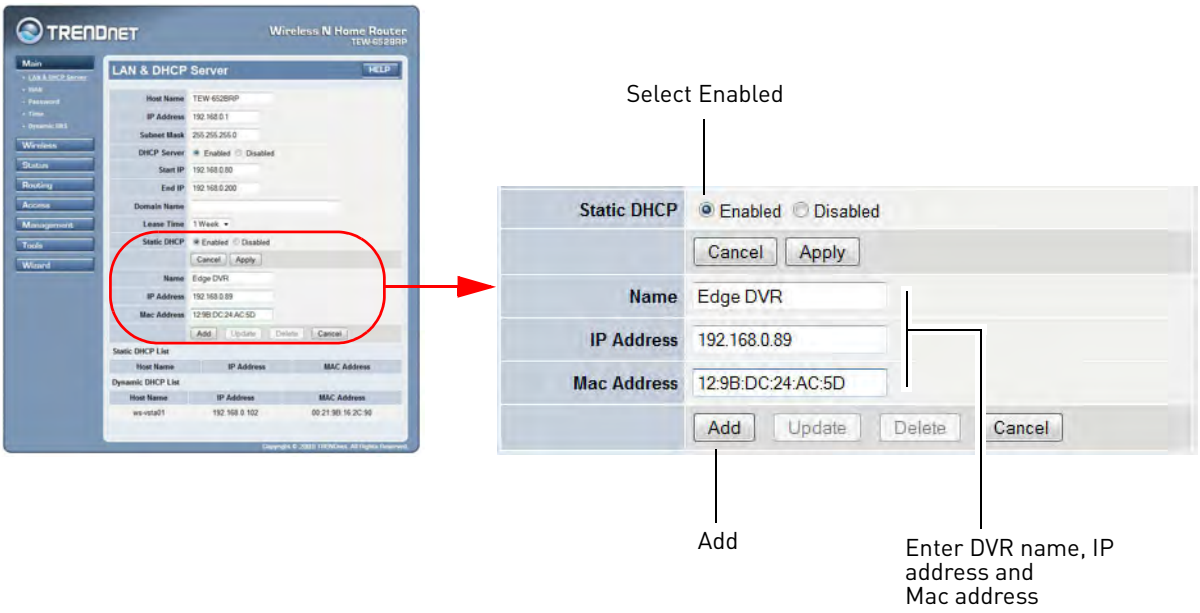
Step 2 of 2: Enter the desired static IP address in the router

Prerequisites:

- Obtain the DVR's MAC address

To enter a static IP into the router:

1. Under the main menu, click on **LAN & DHCP Server**.
2. Configure the following:
   - **Static DHCP:** Select **Enabled** and then click **Apply**.
   - **Name:** Enter the desired name of your device
   - **IP Address:** Enter the IP address that you wish to make static. This IP address must be the same address specified in the DVR.
   - **MAC Address:** Enter the MAC address of your DVR.



3. Click **Add**.
   - The DVR info appears in the Static DHCP list.

Static DHCP List

Host Name	IP Address	MAC Address
Edge DVR	192.168.0.89	12:9B:DC:24:AC:5D

Once the DVR has been added to the Static DHCP list, you have successfully created a static IP address for your system.

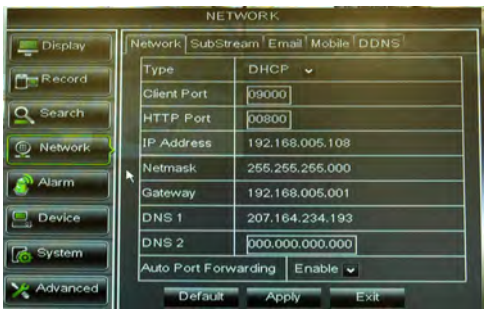
Appendix G: Auto Port Forwarding Router Compatibility List

The system features a built in port forwarding feature that is compatible with most routers. Below is a list of routers that is compatible with the Auto Port Forwarding feature.

Brand	Model	Version
ASUS	WL-500g Deluxe	1.9.6.0
AVM	WLAN 7170	29.04.29
Belkin	F5D7230-4	9.01.10
Belkin	F5D8233-4V3	
Billion	BiPAC 7401VGP R3	
Billion	BiPAC 7404VGOX	
Billion	Billion BiPAC 7404VGPX	
Billion	BiPAC 7404VNOX	
Billion	BiPAC 7404VNPX	
D-Link	DI-524	2.04TW
D-Link	DI-604	v2.20
DrayTek	Vigor 2700 series	2.8.2_1401302
DrayTek	Vigor 2900 series	2.5.6
Free	Freebox ADSL	v5
Inventel	LiveBox	
LevelOne	WBR-3407A	
LinkSys	BEFW11S4	2.1
LinkSys	RTP300	5.01.04
LinkSys	WAG200G	1.01.09
LinkSys	WRT54G	v4.20.7
LinkSys	WRT120N	1.0.00
Motorola	VT2442	11.4.1-r070201-1.3.2
Netcore	V1.1.77	
Netgear	MR814	v2
Netgear	RP614	v3
Netgear	WGT624	v3
Netgear	WPN824	
PCI	MZK-W04NW	
PLANET	ADE-3400B	
Siemens	Gigaset SE551	
SMC	SMCWGBR14-N	
Surecom	EP-4904SX	
Thomson	Speedtouch 546	
Thomson	speedtouch 780	
ZyXEL	Prestige 660H-61	

To enable the Auto Port Forwarding feature:

1. In the Main Menu, click **Network**.
2. Beside the Auto Port Forwarding drop-down menu, select **Enable**.
3. Click **Apply** to save your settings.

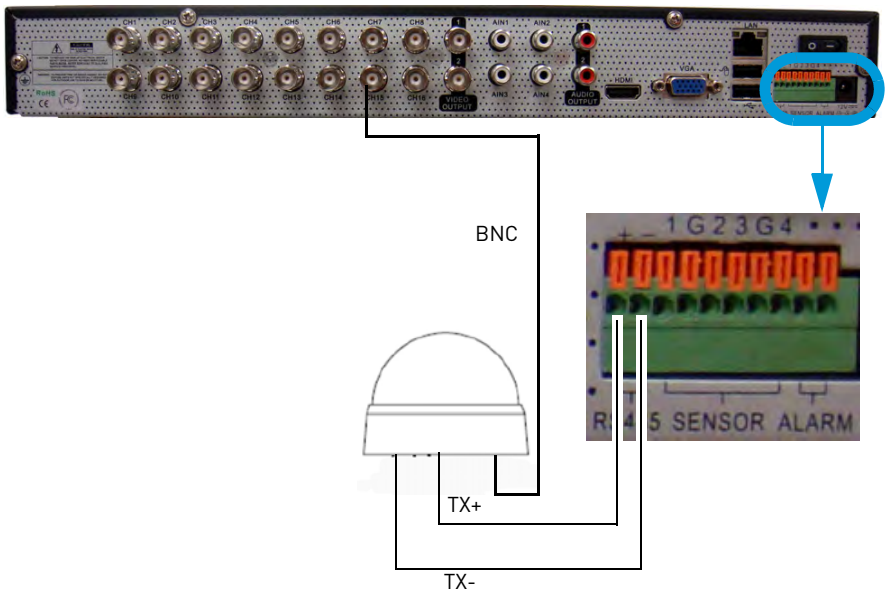


Appendix H: Connecting a PTZ Camera

You can connect RS-485 PTZ cameras (not included) to the PTZ Control Block on the rear panel.

To connect a PTZ camera to the system:

1. Connect the Transmit Cable to the **TX (+)** port of the PTZ block on the rear panel.
   - 16-channel models: Connect the Transmit Cable to the **RS-485 +** port.
2. Connect the Receive Cable to the **TX (-)** port of the PTZ block on the rear panel.
   - 16-channel models: Connect the Receive Cable to the **RS-485 -** port.
3. Connect the video cable to a BNC port.



To enter PTZ camera settings in the DVR:

- Enter the PTZ protocol settings into the PTZ setup menu. Consult your PTZ camera's user's guide for PTZ protocol details.

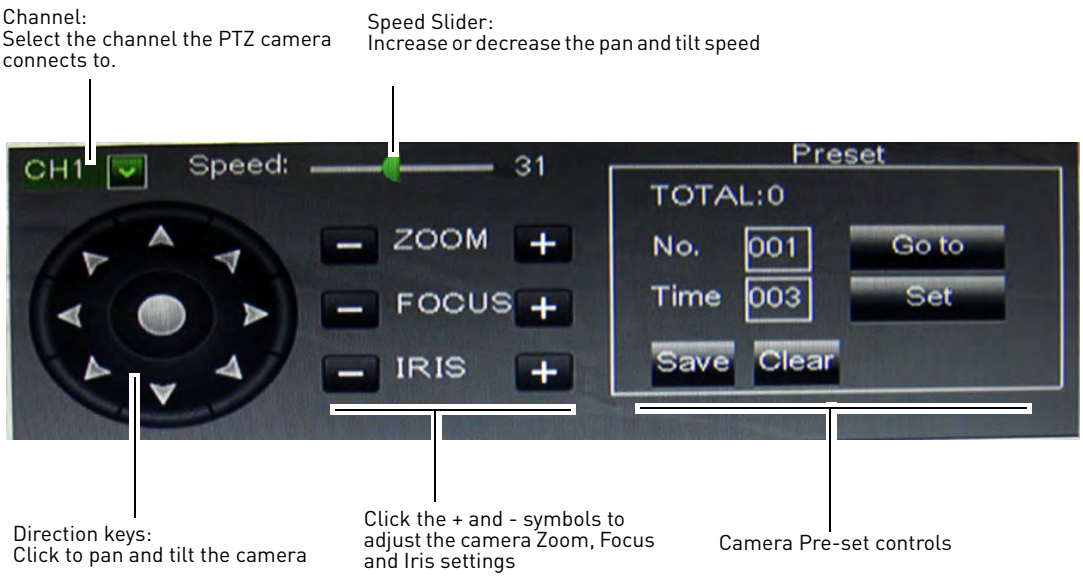
Using the PTZ Menu (Local DVR)

To control the PTZ camera locally on your DVR:

1 Select the channel that the PTZ camera is connected to.

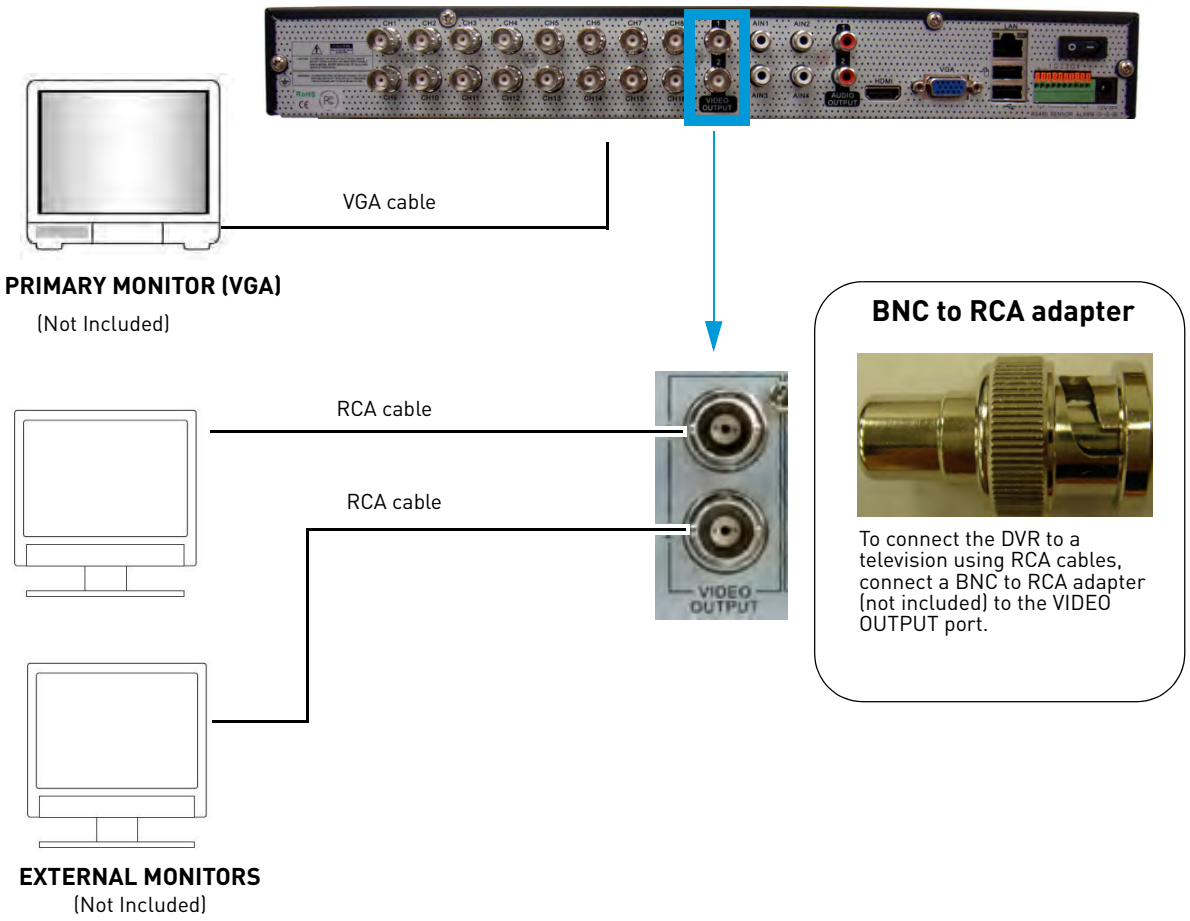
2 Press and hold the **PTZ** button on the front panel of the system for 6 seconds. The PTZ menu opens.

3 Manipulate the PTZ controls on screen.



Appendix I: Connecting Additional External Monitors

Use the VIDEO OUTPUT ports (BNC) on the rear panel of the system to connect an external monitor(s). Monitor-out mirrors the entire screen image of your system. This is useful if you need to monitor the system from a second location (e.g. a back office).



BNC to RCA adapter

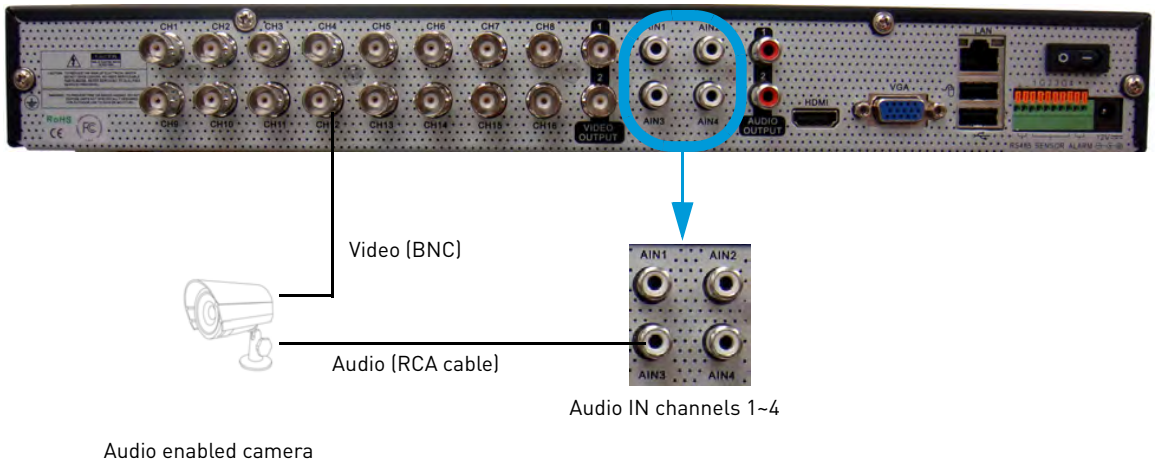
To connect the DVR to a television using RCA cables, connect a BNC to RCA adapter (not included) to the VIDEO OUTPUT port.

Appendix J: Recording Audio

To enable audio recording, Right-click in the main viewing window, and then click **Main Menu→ Record**. In the Channel drop-down menu, select the channel that you wish to enable audio recording. In the Audio drop-down menu, select **Enable** and then click **Apply**.

Connect RCA audio cables from an audio capable camera(s) to the **AUDIO IN** ports on the rear panel of the system. The audio port should correspond to the matching VIDEO IN port (i.e. *Audio camera 1* should be connected to *Video In port 1* and *Audio In port 1*).

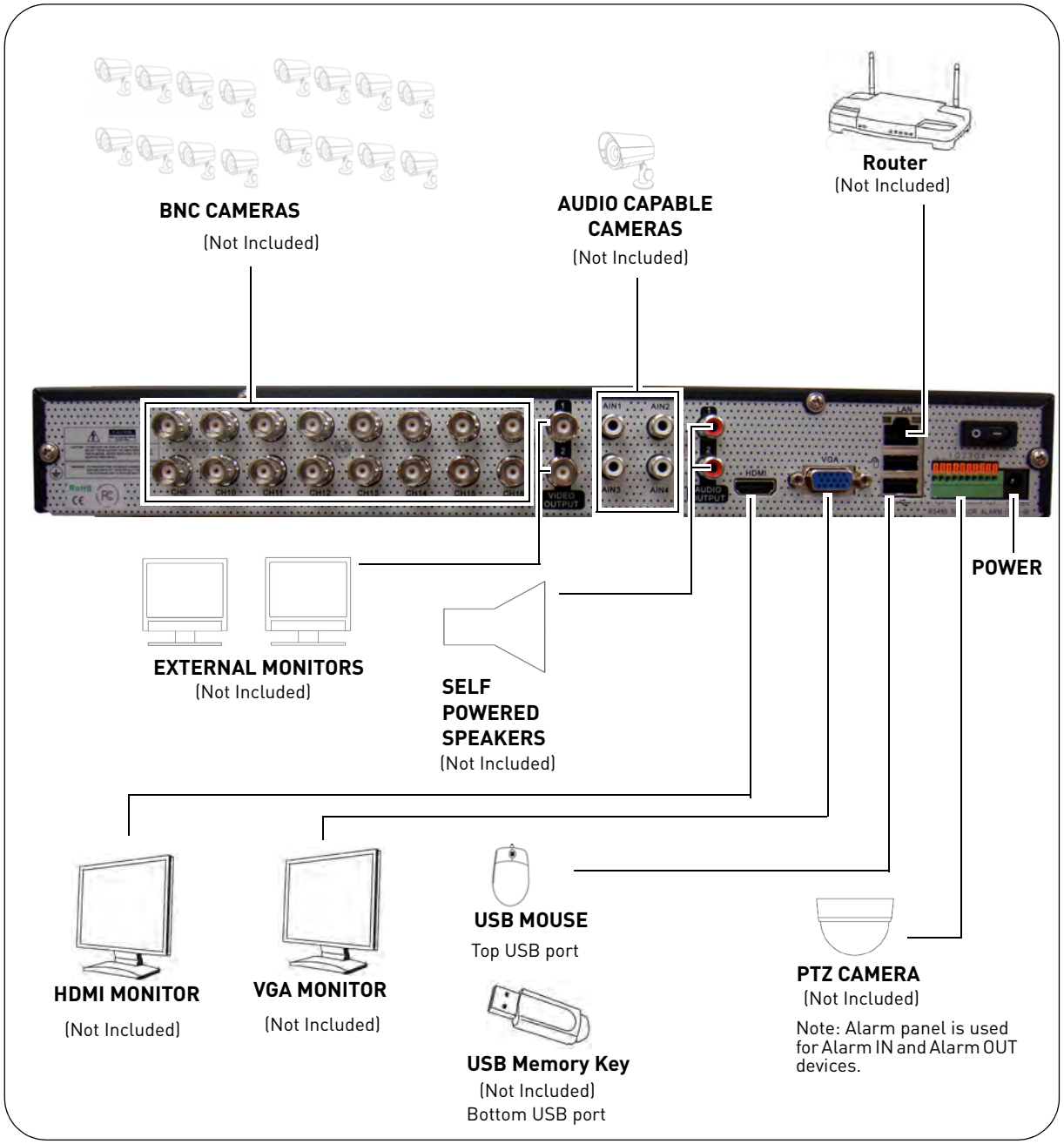
Connecting Audio Cameras



Appendix K: Full Connectivity Diagram

The following diagram outlines a general set of connections available with the system*.

16 Channel Model



NOTE: USB Memory Key can be used to store back up video on the bottom USB port only.

Appendix L: Replacing the Hard Drive

The system comes with a pre-installed 3.5" SATA hard drive. You can expand the system with a replacement single hard drive up to 2 terabyte (TB).

NOTE: Make sure that the system is OFF and the power cable has been disconnected before changing the hard drive.

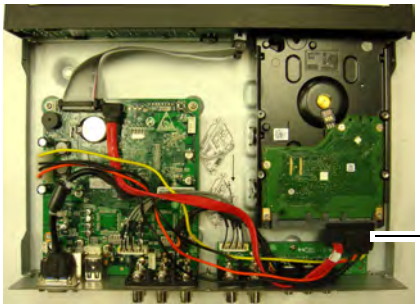
Removing the Hard Drive

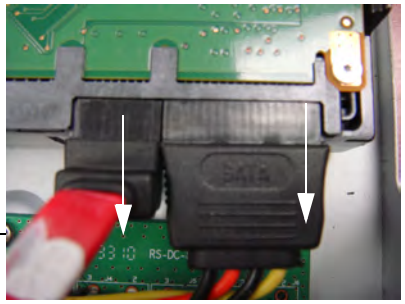
To remove the hard drive:

1 Remove the screws from the side panel (x2) and rear panel (x4) of the cover.

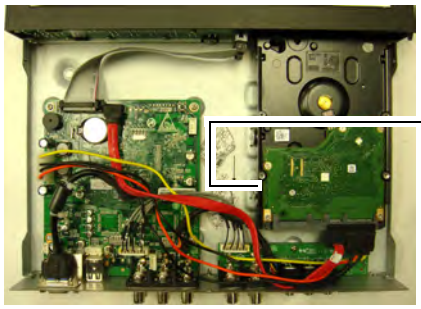
2 Gently slide the cover away from the rear panel and lift off. Be careful of sharp edges.

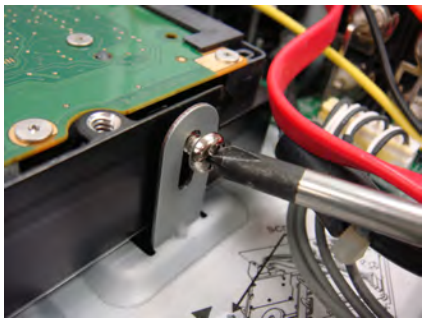
3 Disconnect the power and data cables.





4 Remove the screws from the mounting brackets.





5 Gently remove the hard drive from the housing.

Replacing the Hard Drive

To replace the hard drive:

1. Place the new drive in the housing.
2. Reconnect the power and data cables. Each cable can only be connected one way.
3. Replace the cover, tucking the lip of the cover at the front panel.
4. Replace the screws on the side and rear panels of the cover.

Formatting the Hard Drive

If you replace the pre-installed hard drive, it *must* be formatted in order to function properly with the system.

> **ATTENTION**: Formatting the HDD erases **all data** on the hard disk.
> **This step cannot be undone.**

To format the hard disk:

1. From the main menu, click **Device → HDD**.
2. Click the checkbox under Select to choose the drive you wish to reformat.

3. Click **Format HDD**.
4. When the warning window appears, click **OK**. Wait for the system to format the hard drive.

NOTE: You will notice that the size of the HDD and the free space are not the same. The system uses a portion of the disk space for the operating system and initialization. This is common in all security DVRs as well as common hard drives.

Appendix M: Daylight Saving Time on your DVR

You may have to adjust your system's time during daylight saving months. The table below illustrates the DVR's that automatically adjust to Daylight Saving Time (DST), and DVRs that must have their system time manually adjusted.

NOTE: You must configure and enable automatic DST on your DVR even if your system supports the feature.

Why is the DVR timestamp important?

Your DVR's time stamp is crucial when submitting surveillance video as court evidence. It is highly recommended to double-check that your system has the proper time, even if your system supports automatic DST adjustments.

When should I adjust my system clock?

In North America, most cities observe DST.

- **In March**: the clock moves one hour **forward**
- **In November:** the clock moves one hour **backward**

The specific date in the month where DST starts and ends varies each year. **The table below applies to North America only**.

Daylight Saving Time 2010 - 2015

Year	DST Begins 2:00am (+ 1hr)	DST Ends 2:00am (- 1hr)
2010	March 14	November 7
2011	March 13	November 6
2012	March 11	November 4
2013	March 10	November 3
2014	March 9	November 2
2015	March 8	November 1

Source: NASA (2010).

Retrieved online: http://eclipse.gsfc.nasa.gov/SEhelp/daylightsaving.html

Appendix N: Remote Viewing (Mac)

Prerequisite:

- Follow the steps on page 51 to page 58 to set up remote viewing on the DVR.

NOTE: The remote viewing interface on the Mac is identical to the PC, with the exception of the Search menu. For details on how to configure the system remotely, follow the PC remote viewing instructions.

NOTE: When connecting for the first time, you will be prompted to restart your Safari browser after installing the plug-ins. Make sure you exit the browser completely (right-click on the Safari icon, and click **Quit**).

Remote Viewing on the Mac

Upon login, the Remote Surveillance main screen opens in your browser.

1 **Navigation Tabs**: Allows you to access the following tabs:

- **Live**: Live view of video.
- **Playback**: Revisit archived video footage.
- **Remote Setting**: Configure system and networking options.
- **Local setting**: Configure where local files are stored on your hard drive.
- **Logout**: Exits remote viewing.

2 **Active Channel List:** Displays channels that are currently live.

3 **Viewing options**:

- : Click to open all connected channels.
- : Click to open the selected channel in full screen view.
- : Previous Page
- : Next Page
- : Click to close all connected channels. Note that the system continues to record even though you closed all the channels remotely.
- Click to select the desired split-screen viewing options.

4 **Split screen viewing**: Click the desired viewing mode.

5 **Mute**: Click to mute audio.

6 **Main Screen**: Main display screen for live viewing and playback. You can also drag the screens to any desired position.

7 **PTZ Controls**: PTZ (Pan, Tilt, Zoom) control for connected PTZ cameras (not included).**Logging Into Your System**

Viewing recorded video files

To view the files downloaded on your system, you will need to install Lorex Player Mac.

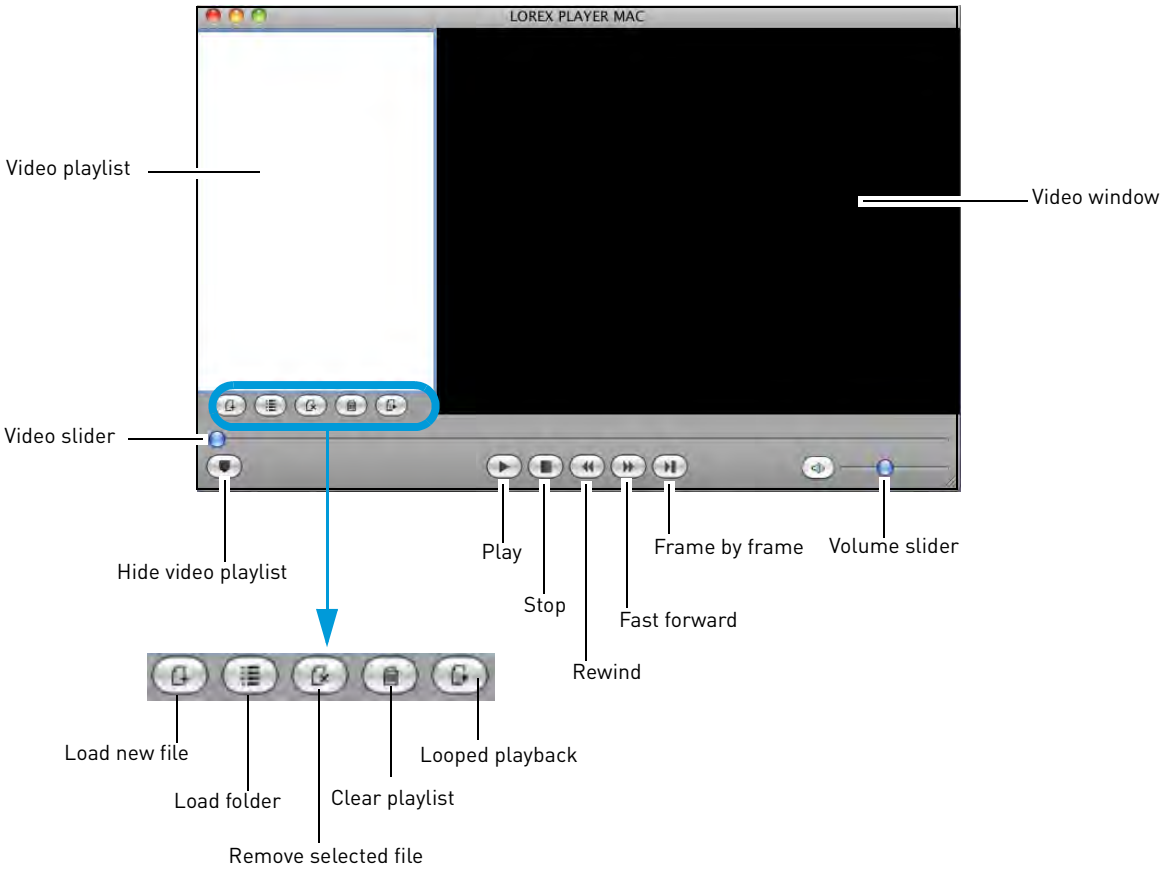
To install Lorex Player Mac:

1. Go to www.lorextechnology.com, and search for your DVR's model number. Click on the model of your DVR.
2. Download the Lorex Player Mac software from the "Downloads" section.
3. Double-click the Lorex Player Mac installation file. Follow the on-screen instructions to install the software.

Launching Lorex Player Mac:

- Click the Lorex Player Mac icon ( ) in the Dock.

Lorex Player Mac interface



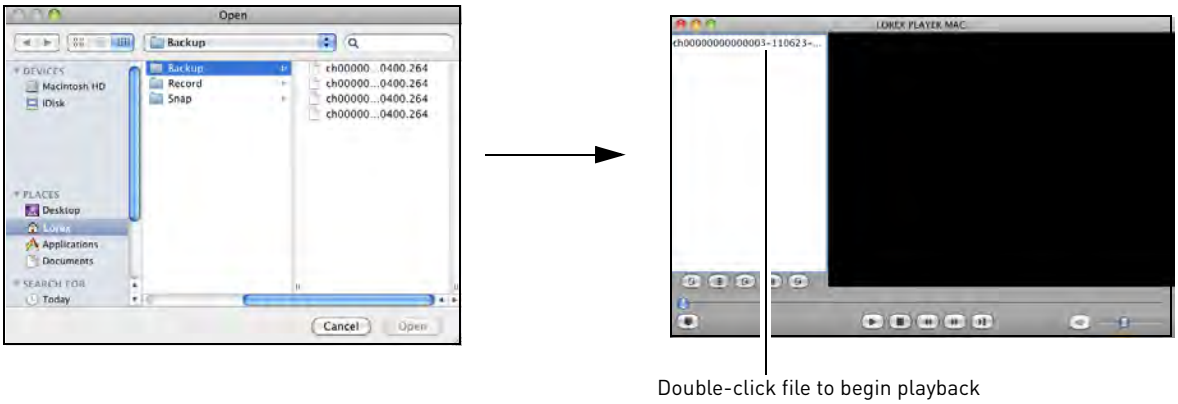
Loading Individual Video Files

To load files saved onto your hard drive:

1 Click the Load new file button ( ).

2 Browse and select the desired file. Click **Open** to add the file to the video playlist.

NOTE: The default save directory is in your Home folder→dvr.



3 Double-click the video file in the playlist to begin playback.

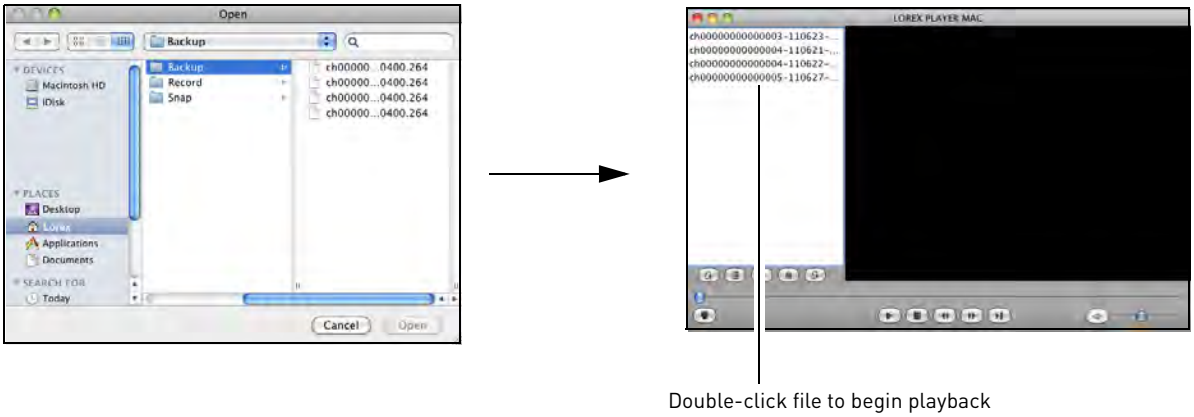
Loading Multiple Video Files

You can load an entire folder of video files.

To load multiple video files saved onto your hard drive:

1 Click the Load folder button ( ).

2 Select the desired folder you wish to add to the playlist. Click **Open** to add all the videos in the folder.



3 Double-click the video file in the playlist to begin playback.

Video Playback (Mac)

Video playback allows you to watch video that has been recorded in the DVR's hard drive remotely.

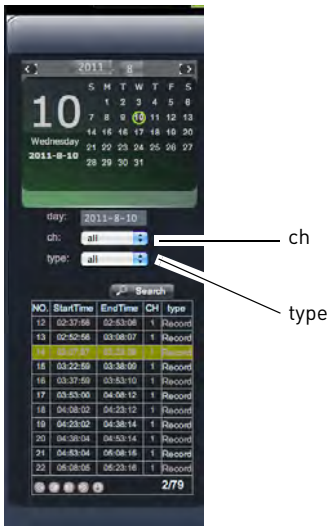
To playback video:

1 Click the **Playback** tab.

2 In the calendar window, select the Month, Year, and date.

3 Configure the following:

- Beside **ch**, select the channel you wish to search under.
- Beside **type**, select the type of recording you wish to search for.



4 Click the **Search** button. A list of videos populate in a list.

5 Double-click on the desired file in the list to begin playback.

NOTE: You can only playback one channel at a time.

Configuring the system

The menu structure of the PC remote viewing is identical to the Mac remote viewing. For details, see “Remote Viewing” on page 59.

Troubleshooting

When a malfunction occurs, it may not be serious and can be corrected easily. The following describes the most common problems and solutions. Please refer to the following before calling Lorex Technical Support:

Error	Possible Causes	Solutions
• System is not receiving power, or is not powering up	• Cable from power adapter is loose or is unplugged	• Confirm that all cables are connected correctly • Confirm that the power adapter is securely connected to the back of the unit

	• Cables are connected, but system is not receiving sufficient power	• Confirm that the system is powered on (LED indicators on the front should be ON)
		• If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet
		• Confirm that there is power at the outlet:
		  • Connecting the power cable to another outlet
		  • Test the outlet with another plugged device (such as an electric calculator or phone charger)

• Remote control is not detected by the system	• Battery in the remote control is drained	• Install two fresh AAA alkaline batteries in the remote control
	• There are no batteries in the remote control	
• Hard drive is not detected by the system	• Hard drive cables are loose or not properly connected	• Remove the housing and check that hard drive cables are firmly connected
	• There is no hard drive in the system	• Open the housing and install a 3.5" SATA hard drive
• Hard drive is full (0%) and the unit is no longer recording	• Overwrite is not enabled	• From the Main Menu, select DEVICE>HDD>. Select the "Overwrite Auto" checkbox.

Troubleshooting (cont'd.)

Error	Possible Causes	Solutions
• Mouse not detected by system	• Mouse cable is not firmly connected to the system	• Firmly connect the mouse cable to the USB Mouse port on the front panel
	• Mouse is not connected to the system	
	• System needs to be reset	• Power off the system (disconnect power cable). Firmly connect a USB mouse to the USB Mouse port on the front panel of the system. Reconnect the power cable to the DC 12V port on the rear panel.
• There is no picture on selected channels / camera picture is not being displayed	• Camera cables are loose or have become disconnected	• Check the camera video cable and connections • Disconnect and reconnect the cable at the system and at the camera • Try moving the camera to another channel or use another cable
• The image on the DVR appears, but does not have sound	• Audio cables are loose or have been disconnected	• Check the AUDIO connections to the DVR
	• Volume on external speakers (not included) is low or off	• Increase volume on external speakers (not included)
• The system beeps at startup		• The beep at startup is normal
• The system beeps during motion detection	• Motion detection is enabled, but the alarm buzzer is activated	• Open the Main Menu and click System> Motion. In the Buzzer drop-down, select Off. Click apply.
• I am not receiving email notifications	• Email notification is disabled	• Ensure you have configured e-mail notification. For details,see "Setting up E-mail Notification" on page 38.
	• Default setting is disabled, but you have not entered your own SMTP information	• If you want to use your own SMTP server, deselect the Default box, and enter your SMTP Server address, Port, User name, and Password in the respective fields

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